taylor | english

Taylor English Duma LLP 1600 Parkwood Circle, Suite 200, Atlanta, Georgia 30339
Main: 770.434.6868 Fax: 770.434.7376 taylorenglish.com

L. Craig Dowdy
Direct (404) 640-5958
cdowdy@taylorenglish.com

November 18, 2022

Via Alternative Electronic Filing

Ms. Sallie Tanner
Executive Secretary
Georgia Public Service Commission
244 Washington Street, SW
Atlanta, GA 30334
stanner@psc.ga.gov

Re: In re: Georgia Power Company's 2022 Rate Case; Docket 44280

Dear Ms. Tanner:

For filing in the above-styled docket, please find the enclosed *Direct Testimony of Marilyn A. Brown* on behalf of the Southface Energy Institute, Inc. & Southern Alliance for Clean Energy Incorporated. As required by the electronic filing procedures, a physical copy of this filing will be mailed to the Commission. Thank you for your attention to this matter.

Should you have any questions, please do not hesitate to contact our office.

Sincerely,

L. Craig Dowdy
For TAYLOR ENGLISH DUMA LLP

Enclosures
cc: All parties of Record

STATE OF GEORGIA
BEFORE THE GEORGIA PUBLIC SERVICE COMMISSION

In Re: Georgia Power Company's 2022 Rate Case	**)** **)**)	**DOCKET NO. 44280**

DIRECT TESTIMONY OF DR. MARILYN A. BROWN ON BEHALF OF SOUTHERN ALLIANCE FOR CLEAN ENERGY AND SOUTHFACE ENERGY INSTITUTE, INC.

November 18, 2022

I. INTRODUCTION

Q1: PLEASE STATE YOUR NAME, POSITION, AND BUSINESS ADDRESS.

A1: My name is Dr. Marilyn A. Brown. I am a Regents' and Brook Byers Professor of Sustainable Systems in the School of Public Policy at Georgia Tech. My business address is 685 Cherry Street, Room 312, Atlanta, GA, 30313. I have prepared this testimony in my personal capacity. The positions and statements contained in this testimony are my own and are not the opinions of my employer.

Q2: ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS PROCEEDING?

A2: I am testifying on behalf of Southern Alliance for Clean Energy ("SACE") and Southface Energy Institute, Inc. ("Southface").

Q3: PLEASE SUMMARIZE YOUR QUALIFICATIONS AND WORK EXPERIENCE.

A3: I earned a Bachelor of Arts degree in Political Science from Rutgers University, a Master in Regional Planning degree from the University of Massachusetts, a Doctor of Philosophy degree in Geography from Ohio State University, and a Certified Energy Manager from the Association of Energy Engineers. I am an elected member to both the National Academy of Sciences and the National Academy of Engineering.

Prior to joining the faculty at Georgia Tech, I was on the senior management team of the U.S. Department of Energy's Oak Ridge National Laboratory, the nation's largest energy research laboratory. I co-founded the Southeast Energy Efficiency Alliance and chaired its Board of Directors for several years.

I have served on the Boards of the American Council for an Energy-Efficient Economy and the Alliance to Save Energy and was a Board Commissioner with the Bipartisan Policy Center. I have also served on eight National Academies committees and currently serve on the Editorial Boards of *Energy Policy, Energy Efficiency,* and *Energy Research and Social Science*.

I am a retired two-term regulator of the Tennessee Valley Authority ("TVA"), the nation's largest public power provider. During those eight years, I chaired TVA's Nuclear Oversight Committee that was responsible for bringing the nation's last nuclear unit online (Watts Bar Unit 2), and I helped to expand TVA's energy efficiency program offerings. From 2014-2018, I also served on the U.S. Department of Energy's Electricity Advisory Committee, where I led the Smart Grid Subcommittee.

My research focuses on the design and impact of policies aimed at accelerating the development and deployment of sustainable energy technologies, with an emphasis on the electric utility industry; the integration of energy efficiency, demand response, and solar resources; energy equity, and strategies to improve resiliency to disruptions. I have written six books and authored more than 250 publications related to these various energy issues.

My work has had significant visibility in the policy arena as evidenced by my briefings and testimonies before state legislative bodies and Committees of both the U.S. House of Representatives and Senate and governmental and professional meetings around the world.

Q4: HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE GEORGIA PUBLIC SERVICE COMMISSION ("GPSC" OR "THE COMMISSION")?

A4: Yes. I testified in Georgia Power Company's 2022 Integrated Resource Planning and Demand Side Management dockets (Docket Nos. 44160 and 44161).

Q5: WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A5: The purpose of my testimony is to offer and explain the following recommendations and rebuttals:

1. The Commission should order Georgia Power to reinstate the Renewable Non-Renewable ("RNR") monthly netting tariff without a cap for three years. During that time, hold workshops to consider alternative compensation rates for excess generation. Having an unlimited cap for the next three years will enable customer-sited resources to support system reliability, local economic development, and participation of Georgia residents in the 30% investment tax credits funded by the Inflation Reduction Act. Georgia is not close to meeting the achievable potential for rooftop solar to supply a valuable peak resource. Nor is Georgia at a level of penetration that warrants valuing excess distributed solar generation to the grid at anything less than retail price.
2. A cost of service study should be conducted. Not all of the benefits of distributed solar are being accounted for in the cost-shift Exhibit (LPE/LTL-1) in Evans and Legg's testimony. Benefits that are excluded include enhanced employment, resilience, and grid security, as well as reduced and avoided T&D infrastructure costs and line losses, air pollution, and greenhouse gas emissions.

3. The proposed interconnection fee for participation in the RNR tariff should be reduced because it is excessive, based on my assessment of practices elsewhere. In addition, it should be waived for income-qualified customers.
4. Reinstating the RNR monthly netting tariff has co-benefits to the broader economy through job creation, and it enhances access to distributed solar for low- and moderate-income households.

Q6: ARE YOU SUBMITTING EXHIBITS ALONG WITH YOUR TESTIMONY?

A6: Yes, I am submitting five (5) exhibits along with my testimony, as follows:

1 – MAB-EXHIBIT-1: Curriculum Vitae of Dr. Marilyn A. Brown;

2 – MAB-EXHIBIT-2: Distributed Energy Generators as Percentage of Households, through June 2022;

3 – MAB-EXHIBIT-3: Slow Growth Forecasted for Distributed Solar in Georgia: 2016-2025;

4 – MAB-EXHIBIT-4: Fewer Distributed Solar Systems in 2019 Means $429 Million in Tax Revenues Did Not Come to Georgia from 2010-2019; and

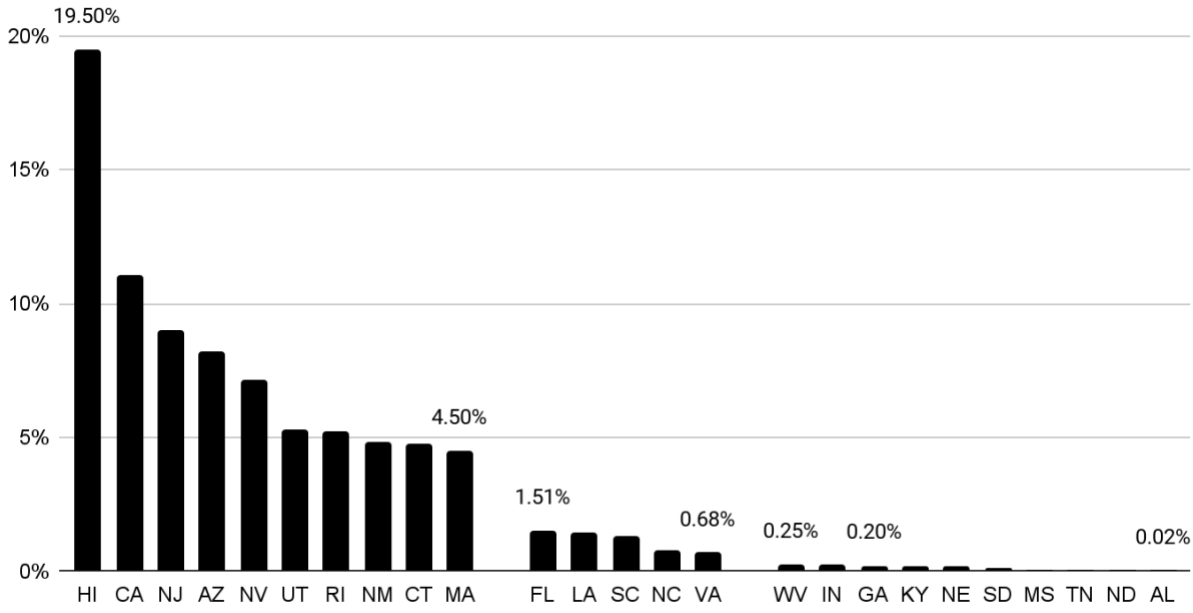
5 – MAB-EXHIBIT-5: Residential Distributed Generation Interconnection Fees

II. ACHIEVABLE POTENTIAL FOR ROOFTOP SOLAR IN GEORGIA

Q7: HOW DOES GEORGIA'S ROOFTOP SOLAR PENETRATION AND ITS TECHNICAL POTENTIAL COMPARE TO OTHER STATES?

A7: By June of 2022, 10 States had levels of rooftop solar penetration ranging from 4.5% to 19.5% of their residential customers. At only 0.2%, Georgia ranked 43rd in the U.S. for residential rooftop solar penetration (Figure 1).

Figure 1. Distributed Energy Generators as Percentage of Households, through June 2022



Source: EIA 2022 for Number of Net Metering and Non-Net Metering Generators and U.S. Census Data 2021 for Households.

The technical generation potential of rooftop solar in Georgia is estimated to be 44 TWh/year of electricity generation.[1] That represents 34% of Georgia's electricity sales,

[1] Gagnon, P., R. Margolis, J. Melius, C. Phillips, and R. Elmore, 2016, *Rooftop Solar Photovoltaic Technical Potential in the United States: A Detailed Assessment*, National Renewable Energy Laboratory (NREL) Technical Report NREL/TP-6A20-65298, Table 6, Available at, https://www.nrel.gov/docs/fy16osti/65298.pdf.

which is more than Arizona and Massachusetts – two of the top 10 rooftop solar states. Georgia has a higher technical potential for rooftop generation than all other Southeastern states except Florida and North Carolina.

Q8: WHY DOES GEORGIA HAVE SO LITTLE ROOFTOP SOLAR?

A8: According to a recently published analysis of net metering policies, Georgia and Kansas are tied for last place on a scale ranging from the most to the least supportive of rooftop solar.[2] States were ranked according to five features of their net metering programs: system size caps, program size caps, excess utility compensation level, number of eligible technologies, and whether or not consumers own Renewable Energy Credits (RECs).[3]

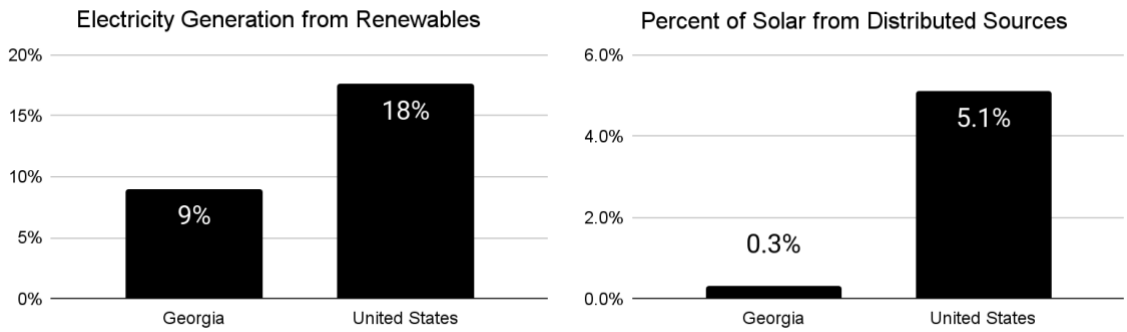
Q9: HOW DOES ELECTRICITY GENERATION FROM RENEWABLE SOURCES IN GEORGIA COMPARE TO OTHER U.S. STATES?

A9: Georgia Power is a leader in utility-scale solar, but it lags the nation in overall renewables and in rooftop solar. Renewable resources generated only 9% of the state's electricity in 2019, while across the U.S., renewables constituted nearly twice that amount at 17.6%. In 2019, Georgia's distributed solar represented only 0.3% of its total solar generation, while

[2] Smith, K.M, C. Koski, and S. Siddiki, 2021, Regulating net metering in the United States: A landscape overview of states' net metering policies and outcomes, *Electricity Journal*, Volume 34, Issue 2.
[3] *Id.*

distributed solar contributed a total of 5.1% of solar generation nationwide in the same year.[4]

Figure 2. Percent Electricity Generation from Renewable Sources and Distributed Solar: Georgia and the U.S. in 2019



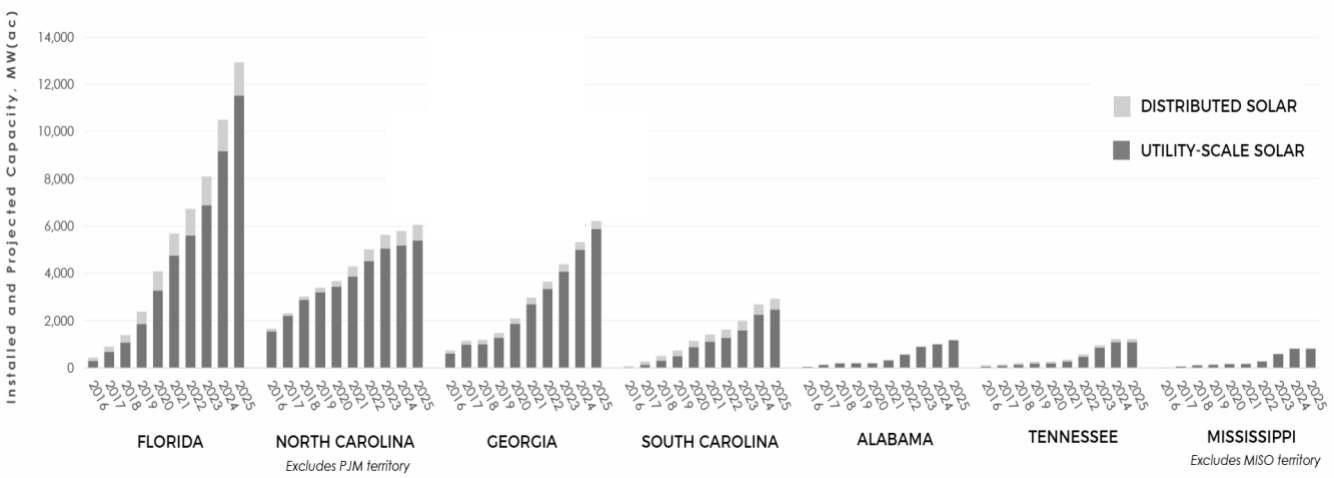
Source: Brown, M.A., R. Tudawe, and H. Steimer. 2022.[5]

Q10: HOW DOES THE FORECAST OF ROOFTOP AND UTILITY-SCALE SOLAR IN GEORGIA COMPARE TO OTHER U.S. STATES?

A10: According to *Solar in the Southeast* Report from July 2022, Georgia's utility-scale solar will continue to grow rapidly, while Georgia's distributed solar will grow quite slowly (see Figure 3).[6]

[4] Brown, M.A., R. Tudawe, and H. Steimer, 2022, Carbon drawdown potential of utility-scale solar in the United States: Evidence from a case study of Georgia, *Renewable and Sustainable Energy Reviews* 161 (June): 112318, Available at, https://doi.org/10.1016/j.rser.2022.112318.
[5] *Id.*
[6] Jacob, B., July 2022, *Solar in the Southeast, Fifth Annual Report*, Southern Alliance for Clean Energy, Available at, https://cleanenergy.org/wp-content/uploads/22Solar-in-the-Southeast22-Fifth-Annual-Report-July-2022.pdf.

Figure 3. Slow Growth Forecasted for Distributed Solar in Georgia: 2016-2025



Source: Jacob, B. July 2022.[7]

Q11: IS ROOFTOP SOLAR IN GEORGIA LAGGING BECAUSE OF ITS LIMITED TECHNICAL POTENTIAL?

A11: No. The Drawdown Georgia project estimates that Georgia has the "technical potential" for 24.3 GW of solar rooftop nameplate capacity, based on the rooftop square footage of existing flat and south-facing angled roofs located in Georgia.[8]

Drawdown Georgia also estimates an achievable potential for an additional 1,475 MW of rooftop solar in Georgia – where "achievable" considers costs, benefits, and

[7] *Id.*
[8] Brown, M.A., J. Hubbs, X.V. Gu, and M.K. Cha, 2021, Rooftop Solar for All: Closing the Gap Between the Technically Possible and the Achievable Potentials, *Energy Research and Social Science* (80), Available at, https://doi.org/10.1016/j.erss.2021.102203.

stakeholder acceptance.[9] This is *36 times* the approximately 40 MW of rooftop solar installed by the 4,157 customers who participated in the RNR monthly netting pilot.[10]

III. NET METERING DESIGN AND IMPACTS

Q12: HOW MANY JURISDICTIONS OR UTILITIES HAVE "TRUE NET METERING"?

A12: In 2022, 33 states had net metering policies that credited excess electricity generated by customers at the retail rate.[11] This is often called "true net metering," and is the definition used by the Energy Information Agency (EIA) and the Database of State Incentives for Renewables & Efficiency (DSIRE). Out of seven states in the Southeast, North and South Carolina and Florida have state level policies requiring true net metering, and they also have the highest rooftop solar penetration rates in the Southeast averaging at 1% (see Figure 1.). There are several other terms used in the industry, some described below, to describe programs that either don't net generation one-to-one against consumption, or credit excess generation at less than retail value.

The other four Southeastern states (Mississippi, Alabama, Georgia, and Tennessee) don't allow one-to-one netting of kWh for energy supplied to the grid and are all in the

[9] Brown, M.A., P. Dwivedi, S. Mani, D. Matisoff, J.E. Mohan, J. Mullen, M. Oxman, M. Rodgers, R. Simmons, B. Beasley, and L. Polepeddi, 2021, A Framework for Localizing Global Climate Solutions and their Carbon Reduction Potential, *Proceedings of the National Academy of Sciences* 118 (31), Available at, https://doi.org/10.1073/pnas.2100008118.
[10] Georgia Power's 2022 Rate Case (Docket 44280), STF-TAI-3-9 Data Response (Document No. 191417).
[11] Pickerel, K., 2022 UPDATE: Which States Offer Net Metering, Solar Power World, Originally published on March 27, 2020, Available at, https://www.solarpowerworldonline.com/2020/03/which-states-offer-net-metering/.

bottom eight states of rooftop solar penetration. Mississippi offers net billing, which is an alternative distributed generation program design that monetizes excess generation at less than retail on a monthly basis rather than rolling over credits at full retail value. Georgia Power's monthly netting tariff pilot is most similar to Mississippi's net billing, but Mississippi includes more participant benefits because it includes a 2.5 cent/kWh adder over avoided cost for excess generation compensation.

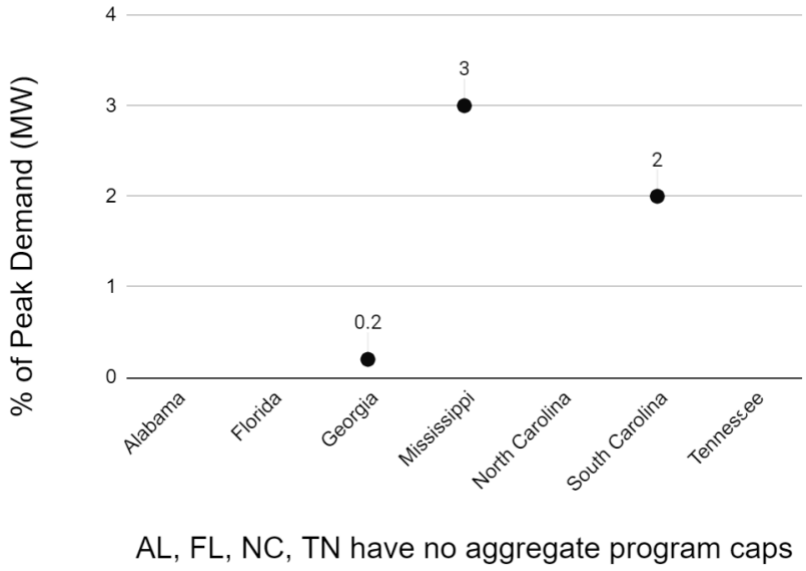
Alabama Power has the most restrictive policy in the Southeast by imposing a $5.41/kW monthly solar tax; it ties with Tennessee for lowest participation in rooftop solar. Georgia Power's proposed instantaneous netting program is most similar to Tennessee's buy-all sell-all program design that yields one of the lowest state penetrations in distributed solar generation in the country. Only a few states, including Arizona and Kentucky, use instantaneous netting. However, Arizona only revised their net metering policy after reaching a high penetration level, over 5%. At 0.2%, Georgia is nowhere near the penetration level that warrants valuing excess generation at less than retail.

Q13: HOW DOES GEORGIA POWER COMPANY'S PROGRAM CAP COMPARE TO OTHER STATES?

A13: Georgia Power Company's cap on the RNR monthly netting program is the most restrictive in the Southeast, possibly the nation. Alabama, Florida, North Carolina, and Tennessee do not have aggregate program caps. Georgia Power Company's cap is the lowest at 0.2% of annual peak demand in the previous year. In comparison, South Carolina's program cap is 2% of the last five-year average peak demand, and Mississippi has a cap of 3% of the

utility's peak demand in the prior year. Many states have unlimited aggregate program caps; the largest caps in the nation, below unlimited, range between 5%-7%. Georgia Power Company's cap on the RNR monthly netting program should be expanded.

Figure 4. Aggregate Capacity Limit of Peak Demand



Source: DSIRE database and State Utility Commissions.

Q14: HOW MANY YEARS HAVE NET METERING PROGRAMS BEEN IN OPERATION AND WHAT ARE TYPICAL LEVELS OF PARTICIPATION?

A14: The first net metering policy was adopted in Idaho in 1980.[12] Following steady growth, a surge of adoption then occurred between 1997 and 2001 (when 15 states adopted). Many states in the Southeast adopted between 2004 and 2015 – KY, NC, FL, AR, SC, and MS.

[12] Smith, K.M, C. Koski, and S. Siddiki, 2021, Regulating net metering in the United States: A landscape overview of states' net metering policies and outcomes, *Electricity Journal*, Volume 34, Issue 2.

NEM successor tariffs (NEM 2.0) began adoption in 2013, mostly in states with relatively high levels of solar penetration.[13] In 2020, U.S. utilities serviced nearly 2.4 million net metering customers, and nearly 2.3 million of these were residential customers.

Q15: HOW DOES THE SMALL PENETRATION OF DISRIBUTED SOLAR IN GEORGIA IMPACT FEDERAL INVESTMENT TAX CREDIT REVENUE COMING INTO THE STATE?

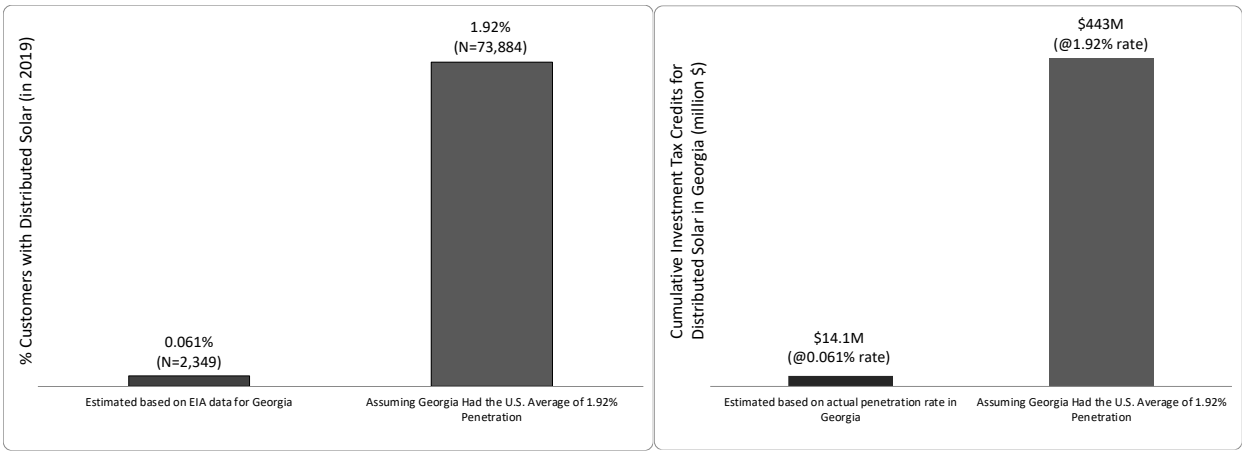
A15: To answer this question, we collected state-level data on distributed generation customers in 2019 by combining information from two tables published by the Energy Information Administration (EIA).[14] In 2019, Georgia had only 2,349 distributed generation customers, which represents a penetration rate of 0.061%. The average penetration rate for the continental U.S. is 1.92%. If Georgia had that penetration rate in 2019, it would have had 73,884 customers with distributed generation. At an average cost of $20,000 per system, each of these customers, assuming they were eligible for the tax credit, could have received approximately $6,000 in investment tax credits between 2006 and 2019.

[13] Stanton, T., n.d., *Review of State Net Energy Metering and Successor Rate Designs*, National Regulatory Research Institute, Available at, https://pubs.naruc.org/pub/A107102C-92E5-776D-4114-9148841DE66B.

[14] For example, for Georgia this involved combining (1) "Non_Net_Metering_Distributed_2019.xlsx" (Tab 'state' sort column B by 'Georgia' and Column 'F' "number of generators", obtaining the estimate of 2,168 for 2019) and (2) "Net_Metering2019.xlsx" (Tab 'monthly totals states' in Column 'J', obtaining the estimate of 181 for 2019). The sum of these two values for Georgia is 2,349 distributed generation customers in 2019. In addition to distributed solar, "Non Net Metering Distributed" includes distributed wind, storage, hydro, fuel cells, internal combustion engines, combined turbine systems and steam). However, the number of non-solar distributed generation customers is small.

This would have been a net gain of roughly $443 million compared to the approximately $14 million in tax revenues that Georgians actually received (Figure 5).[15]

Figure 5. Fewer Distributed Solar Systems in 2019 Means $429 Million in Tax Revenues Did Not Come to Georgia from 2010-2019



Data Sources: EIA and U.S. Census.

Q16: HOW CAN DISTRIBUTED SOLAR BE MORE ACCESSIBLE TO LOW- AND MODERATE-INCOME HOUSEHOLDS?

A16: Many states already require utilities to offer discounted rates to income-qualified customers. Similar approaches could be taken in the context of rooftop PV adoption. Drawing from recommendations in the DOE *Solar Futures Study* (2021), NEM agreements could be structured with higher buy-back rates for low-income customers, as practiced in Mississippi. For instance, if regular solar customers get Monthly Netting with "buy-back" at the RCB-

[15] US EIA Data for Distributed generation includes solar systems along with other types of generation sources. For my calculation, I assume the vast majority of distributed generation systems are rooftop and distributed solar. This is a rough estimate to illustrate the magnitude of revenue potential in Georgia – it assumes that customers are both eligible for the tax credits and that the majority of systems are solar.

modified avoided cost, low-income customers could be offered excess buy-back at retail rate. In addition, low-income households could be exempted from paying interconnection or application fees to increase their access to distributed solar. There are many programs, rates and policies that Georgia Power could offer to increase the access of low-income households to distributed solar, such as on-bill financing or the $3 million program just implemented in Mississippi, which offers a one-time payment to the installer of systems for low-income customers "recovered through rates in the same manner as demand-side management programs."[16]

While the Georgia PSC does not have authority over tax revenues, it is nevertheless notable that, as Mathew Freedman suggests, "Tax revenues are more progressive in their collection. They should be used to offset the needs for subsidy sources for retail rates." With the IRA's additional financial support for disadvantaged communities, this would seem a productive route to take. Georgia Power should be encouraged to facilitate such funding in its territory.

In addition, IRA offers a 20% bonus investment tax credit for disadvantaged communities to purchase distributed solar. The 20% bonus credit is limited to a qualified low-income residential building project or a qualified low-income economic benefit project. The details are under development, and the projects may or may not be eligible for the RNR tariff.

[16] Order Amending Rules Post-Hearing. MS PSC DOCKET NO. 2021-AD-19 (10/04/2022)

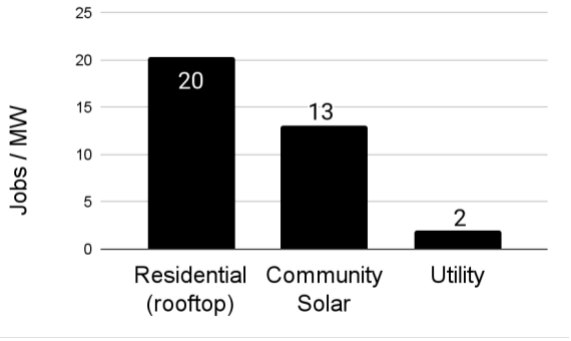
There are also many state and community-funded initiatives that can direct resources for solar systems to be installed on low-income homes.[17] The Houston Advanced Research Center is testing a 1,000 watt solar system with storage that can be used for a heating blanket, to save the food in a refrigerator, and to maintain medical devices when the power is out.[18] Such energy security benefits of rooftop solar are generally not considered in utility cost tests.

Q17: HOW DOES DISTRIBUTED SOLAR BENEFIT THE ECONOMY OF GEORGIA?

A17: On a per-MW basis, "rooftop solar" had a labor intensity rate of roughly 20 workers per MW installed in 2021. Compare this with community solar which has a labor intensity of roughly 13 workers per MW and utility-scale that supports roughly 2 workers per MW (see Figure 6).[19]

[17] Reuven Sussman, testimony to the Committee on the Role of Net Metering in the Evolving Electricity Systems, National Academies of Sciences, Engineering, and Medicine, October 18, 2022.
[18] Gavin Dillinghan, testimony to the Committee on the Role of Net Metering in the Evolving Electricity Systems, National Academies of Sciences, Engineering, and Medicine, October 18, 2022.
[19] These figures represent the direct downstream jobs associated with the installation of the project, and do not include the indirect manufacturing, O&M and other support jobs created by solar projects.

Figure 6. Labor Intensity Rate of Rooftop, Community, and Utility-Scale Solar[20]



The more labor-intensive residential sector represents more than half of all solar jobs (85,305) in the U.S. Although utility-scale solar represents the largest segment of solar based on installed capacity in both the U.S. (64% of the total) and Georgia (98%), it has considerably fewer installation and project development jobs than the other two segments.[21] The more labor-intensive rooftop solar sector therefore offers more opportunity to pull under-resourced labor into the workforce. Its labor force is also more accessible because the vast majority of rooftop solar is installed in urban areas, where the vast majority of roofs are located. As a result, several states such as Illinois with its Clean Energy and Jobs Act, require that solar policies include job training and local job offerings, which will help low-income communities secure a greater share of employment benefits.[22]

[20] Interstate Renewable Energy Council, 2021, National Solar Jobs Census, pp. 19-21, Available at, https://irecusa.org/resources/national-solar-jobs-census-2021/.

[21] See the Interstate Renewable Energy Council (IREC) Solar Jobs Census 2021 (p. 19). In IREC's Census, workers are only counted if they spend 50% or more of their time on solar-related activities. The DOE's U.S. Energy and Employment Report (USEER) report counts anyone who spends any time on solar during the year. As a result, the USEER tallies a larger overall solar workforce.

[22] Leon, W., C. Farley, N. Hausman, B. Herbert, N.H. Hammer, B. Paulos, et al. 2019. Solar with justice: strategies for powering up under-resourced communities and growing an inclusive solar market. Clean Energy States Alliance, p. 134. https://www.cleanegroup.org/ceg-resources/resource/solar-with-justice/#:~:text=This%20report%2C%20%E2%80%9CSolar%20with%20Justice,lasting%20benefits%20to%20those%20communities.

IV. FINDINGS AND CONCLUSIONS FROM MY ANALYSIS

Q18: WHAT ARE THE RESULTS OF YOUR ANALYSIS OF GEORGIA POWER'S PROPOSED RENEWABLE AND NON-RENEWABLE RESOURCES ("RNR") TARIFF?

A18: The results of my review and analysis of Georgia Power's 2022 RNR Tariff are as follows:

1. There is tremendous untapped potential for rooftop solar in Georgia that can be realized with the RNR monthly netting program. Federal government incentives can move markets only when there are enabling rate structures.
2. Investment in, and benefits from, customer-owned rooftop solar resources are not adequately considered within Georgia Power's proposed 2022 Rate Case.
    a. There are numerous benefits of distributed solar adoption and penetration – to customers, solar installers, and utilities.
    b. RNR monthly netting should be reinstated to deliver those benefits.
3. The direction, magnitude and even the existence of any cost shift from NEM participants to non-participants is debatable. A cost of service study is needed to quantify these locational value and cost streams.
4. Because low-income, minority, and rental customers are more likely to be non-participants, reinstatement of monthly netting should be accompanied by an effort to partner with other programs and community organizations that can help these subgroups install distributed solar.
5. The $200 rooftop solar interconnection fee proposed in the Georgia Power rate case appears to be too high, based on a comparison with the fees of other U.S. utilities. I

support the Commission staff's recommendation that the interconnection fee for residential solar customers be set at $100[23]. In addition, it should be waived for low-income residential customers.

Q19: WILL THE INFLATION REDUCTION ACT (IRA) SIGNIFICANTLY INCREASE THE DEMAND FOR RESIDENTIAL SOLAR IN GEORGIA?

A19: Investment tax credits (ITC) for rooftop solar began with the Energy Act of 2005. The ITC was 30% when first offered in 2006 and has been 30% almost every year until 2020 when they were reduced temporarily to 26%. The solar ITC has been one of the most important federal policy mechanisms to support the growth of residential solar in the U.S. In combination with "true" net metering, it has resulted in strong national growth of rooftop solar, but not in Georgia.

Despite having had a 30% federal tax credit for distributed solar almost continuously since 2016, Georgia's residential solar electricity has grown slowly. By the end of 2019, distributed solar generated less than 0.03% of Georgia's total electricity generation.[24]

Georgia needs net metering to grow its rooftop solar industry. And the new IRA will not grow distributed solar without net metering, which is needed to make solar financially attractive to homeowners. There is no evidence to support the claim in Dr.

[23] Barber, J., B. Deitchman, and G.A. Watkins, October 20, 2022, Georgia Power's 2022 Rate Case (Docket No. 44280), Joint Direct Testimony (Document No. 191868), Page 103, Line 15.
[24] Brown, M.A., R. Tudawe, and H. Steimer, 2022, Carbon drawdown potential of utility-scale solar in the United States: Evidence from a case study of Georgia, *Renewable and Sustainable Energy Reviews* 161 (June): pages 112318, Available at, https://doi.org/10.1016/j.rser.2022.112318.

Gattie's Testimony that "federal IRA subsidies may be enough" (p.6, l.2-3). There is also no evidence to support the claim in the testimony of Lee Evans (Southern Company Services Inc.) and Larry Legg (Georgia Power Company) that "Considering the recent passage of the federal IRA,…, there is no need to further incentivize the BTM transition through additional rate design programs such as an expanded monthly netting program." (p. 16).

Q20: DOES NET METERING SHIFT COSTS FROM PARTICIPANTS TO NONPARTICIPANTS?

A20. In my opinion, this question can be answered appropriately only after Georgia Power legitimately assesses the cost to serve its solar customer-generators and adequately considers the value that those solar customer-generators deliver to the system as well as the benefits that accrue to all customers, including non-participants. For example, Brad Harris, the rates manager for Duke Energy, described the results of an "Embedded Cost Shift Study" in a South Carolina docket for DEC and DEP. On page 21 of 24, in Exhibit 1, he showed that it cost $651 less to serve net metering customers than to serve non-solar customers on the Duke Energy Carolina's system ($1,632 vs. $981).[25] This is the kind of study Georgia Power should be required to perform.

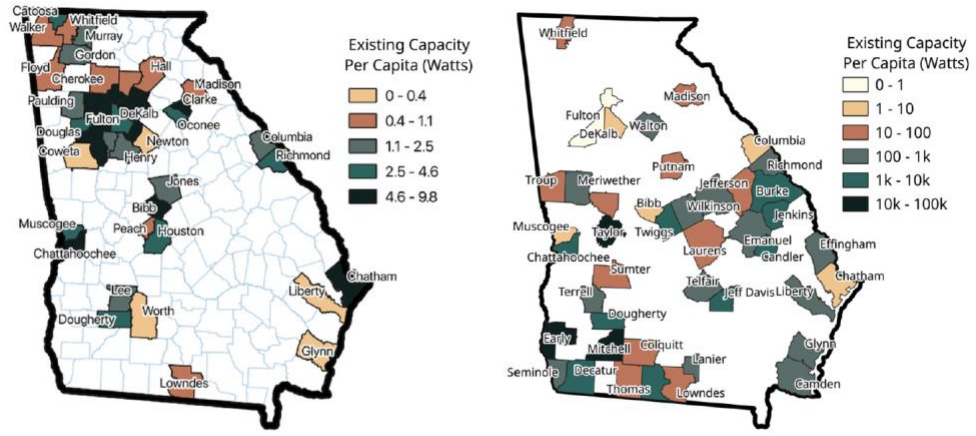
Such a study could also identify the ability for distributed solar to add to the resilience of local circuits. Distributed solar can keep the lights on when transmission

[25] Harris, Brad, Rebuttal Testimony Of Bradley Harris For Duke Energy Carolinas, LLC And Duke Energy Progress, LLC, February 22, 2021, (Document 297572), Available at, https://dms.psc.sc.gov/Attachments/Matter/24e37693-e3c1-4444-b13a-a9acc7d7c3dd

infrastructure is damaged during tornados, hurricanes, and other disasters. The testimony of Alden Hathaway builds upon this premise by explaining how the metric of load factor should be used to value grid efficiency as a benefit for all ratepayers.

The nearness of rooftop solar to demand loads is shown in Figure 7. Distances to demand loads are important factors in determining the locational value streams of generation assets. Different points in the grid have different transfer capability due to voltage, thermal, security and stability constraints. To complicate matters, locational value depends on the hour of the day and the season. Because implementation of the Renewable Cost Benefit Framework does not take these constraints into account, the full value of distributed solar cannot be determined. A cost of service study could consider these locational value streams.

Figure 7. Current Capacity of Rooftop Solar (left) and Utility-Scale Solar (right) per Capita in Georgia in 2019[26]



Existing Capacity of Rooftop Solar per Capita in Georgia (Data from Google Project Sunroof)

Existing Capacity of Utility-Scale Solar per Capita in Georgia (Data from [9] and [15])

The testimony by Lee Evans (Southern Company Services Inc.) and Larry Legg (Georgia Power Company) (p. 11 of 17) states that "For a monthly netting customer on the R rate, **the Company has calculated the resulting shift in cost to be approximately $1,356 per year for the average monthly netting participant." They state further that, "In addition to the cost shift resulting generally from BTM solar, the monthly netting results in an annual cost shift of 1.4 million."** These estimates far exceed the assessment of cost shifts by others.[27] Cost shifts have become a concern in California, but their situation is different. **10%** of California's electricity comes from distributed solar, and as a result its system coincident peak has shifted approximately two hours into the evening (the

[26] Brown, M.A., R. Tudawe, and H. Steimer, 2022, Carbon drawdown potential of utility-scale solar in the United States: Evidence from a case study of Georgia, *Renewable and Sustainable Energy Reviews* 161 (June): pages 112318, Available at, https://doi.org/10.1016/j.rser.2022.112318.
[27] Barbose, G, 2017, *Putting the Potential Rate Impacts of Distributed Solar into Context*. Berkeley, CA: Lawrence Berkeley National Laboratory. Available at: https://eta-publications.lbl.gov/sites/default/files/lbnl-1007060.pdf.

peak period for PG&E is 4 - 9 pm after solar production drops). As a result, solar is less valuable as a peak resource.

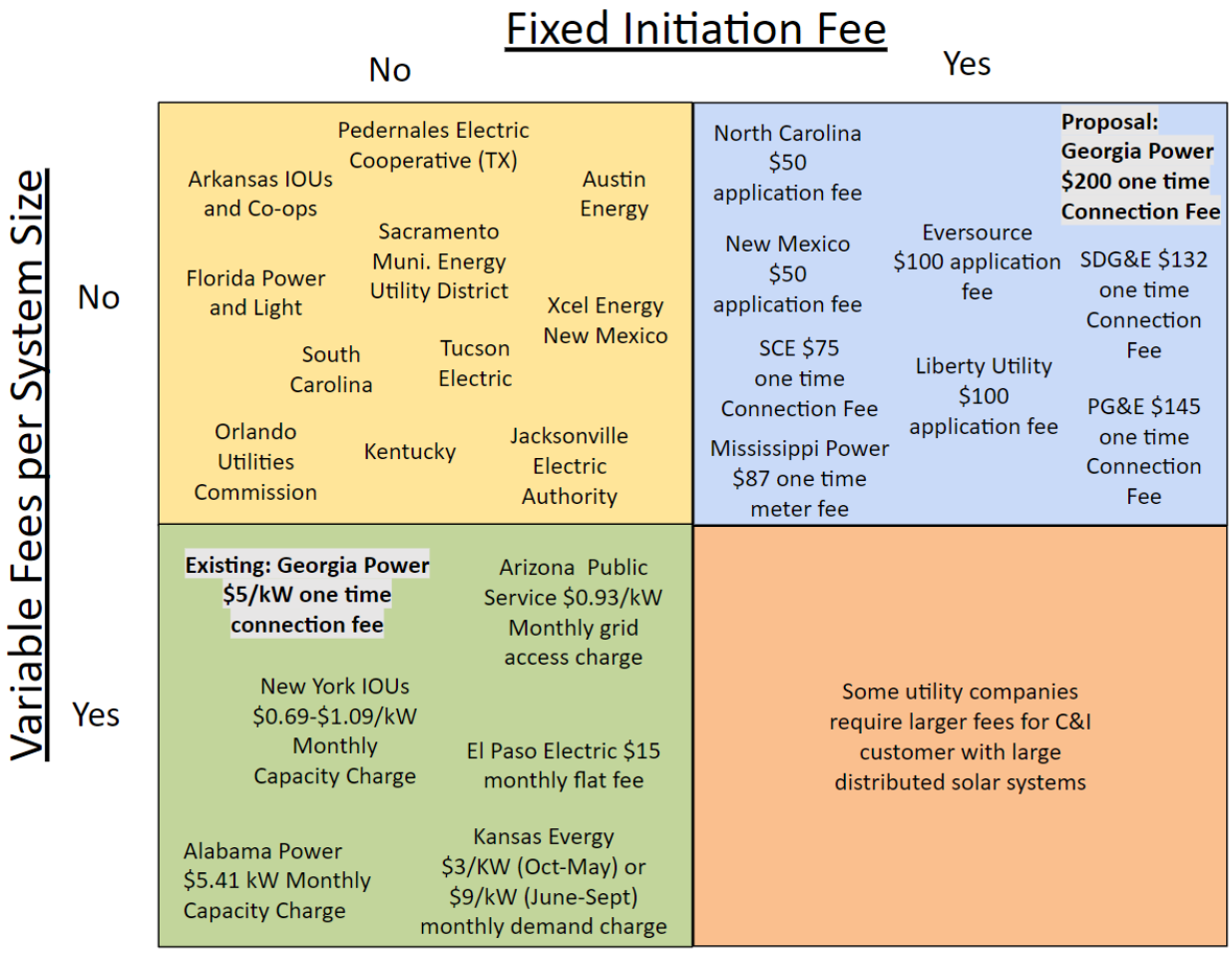
In contrast, **0.03%** of Georgia's electricity comes from distributed solar.[28] As a result, rooftop solar remains a valuable peak resource that is able to reduce the need for higher priced peaking resources during hot summer days. Georgia's policies should not be driven by California's situation.

Q21: SHOULD GEORGIA POWER ADJUST ITS INTERCONNECTION FEE AS PROPOSED?

A21: No, the interconnection fee for residential solar customers should be set at $100. In addition, low-income customers should be exempted from interconnection fees to increase their access to distributed solar. This will help achieve greater participation by this subgroup that has historically had low levels of participation in net metering programs. Virginia just approved a minimum bill for community solar participants, but low-income customers are exempt from it.

[28] U.S. Energy Information Administration, 2021, Electricity Data Browser, Available at, https://www.eia.gov/electricity/data/browser/.

Figure 8. Residential Distributed Generation Interconnection Fees



V. SUMMARY OF RECOMMENDATIONS

Q22: CAN YOU SUMMARIZE YOUR RECOMMENDATIONS FOR THE COMMISSION?

A22: I respectfully suggest the following four recommendations for consideration by the Commission:

1. Reinstate the Renewable Non-Renewable ("RNR") monthly netting tariff without a cap for three years. During that time, hold workshops to consider alternative compensation rates for excess generation.
2. Conduct a cost of service study. Such a study might reveal that (per the experience in South Carolina) it costs less for the Georgia Power Company to serve net metering customers than to serve non-solar customers.
3. The interconnection fee for residential solar customers should be set at $100, it should be waived for low-income households, and Georgia Power Company's cap on the RNR monthly netting program should be expanded.
4. Consider ways to enhance access of low- and moderate-income households to distributed solar.

Q23: DOES THIS CONCLUDE YOUR TESTIMONY?

A23: Yes.

Attachments

Direct Testimony of Dr. Marilyn A. Brown
Southern Alliance for Clean Energy & Southface Energy Institute, Inc.
Georgia PSC, Docket No. 44280
MAB-Exhibit-1

VITA: Marilyn A. Brown – November 16, 2022

Current Employment

Regents & Brook Byers Professor of Sustainable Systems
School of Public Policy
Georgia Institute of Technology
Atlanta, GA 30332-0345
404-385-0303; mbrown9@gatech.edu
Website: http://marilynbrown.gatech.edu/

Affiliations:

- Member, National Academy of Engineering
- Member, National Academy of Sciences
- Co-Director, Climate and Energy Policy Lab http://cepl.gatech.edu
- Joint Faculty Member, Oak Ridge National Laboratory

Marilyn Brown is a Regents' Professor in the School of Public Policy and a Joint Faculty Member of Oak Ridge National Laboratory. She joined Georgia Tech in 2006 after 22 years at Oak Ridge National Laboratory, where she managed the Lab's research on energy efficiency, renewable energy, and the electric grid.

Dr. Brown's current research examines the clean energy transition – modeling and evaluating the impact of technology advances, supporting policies, and their social, behavioral, and economic consequences, with a special emphasis on equity. Her two most recent books are *Empowering the Great Energy Transition* (Columbia University Press, 2019) and *Fact and Fiction in Global Energy Policy* (Johns Hopkins University Press, 2016). She has authored more than 250 publications and contributed to the 2007 Intergovernmental Panel on Climate Change assessment reports for which the IPCC shared the 2007 Nobel Peace Prize. Her work has had significant visibility in the policy arena as evidenced by her briefings and testimonies before state legislative and regulatory bodies, Committees of both the U.S. House of Representatives and Senate, and international organizations.

Dr. Brown co-founded the Southeast Energy Efficiency Alliance and chaired its Board of Directors for several years. She has served on the Boards of the American Council for an Energy-Efficient Economy and the Alliance to Save Energy, and was a commissioner with the Bipartisan Policy Center. She has served on eight National Academies committees and serves on three Editorial Board: *Energy Policy, Energy Efficiency,* and *Energy Research and Social Science*. She served two terms (2010-2017) as a Presidential appointee and regulator on the Board of Directors of the Tennessee Valley Authority, the nation's largest public power provider. From 2014-2018 she served on DOE's Electricity Advisory Committee, where she led the Smart Grid Subcommittee.

Previous Employment & Education

Oak Ridge National Laboratory: Director of Engineering Science and Technology Division – 300 staff (2005-2006); Director, Deputy Director and Group Leader (1984-2004) of the Energy Efficiency, Renewable Energy, and Electric Grid Program ($130 million annual budget).

Tenured Associate Professor of Geography, Univ. of Illinois (1983-84) (Assistant Professor 1977-83).

Lecturer, Department of Geography and Geology, Ohio Wesleyan University (1976-77).

Teaching Assistant and University Fellow, Ohio State University (1973-76).

Research Analyst, Connecticut Department of Environmental Protection (1973).

Ph.D., The Ohio State University, Geography; minor in Quantitative Methods, 1977 (Dissertation: The Role of Public and Private Agencies in the Diffusion of Innovations).

M.R.P., University of Massachusetts, Regional Planning, 1973.

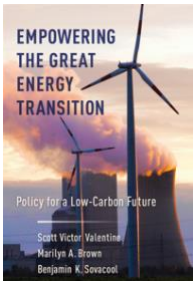
B.A., Rutgers University, Political Science (major), Mathematics (minor), 1971.

C.E.M. (Certified Energy Manager), Association of Energy Engineers, 2003-2024.

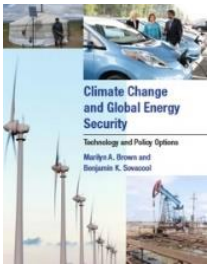
2012 Institute of Nuclear Power Operations, at the Goizuetta Business School at Emory University.

Books and Special Issues of Journals

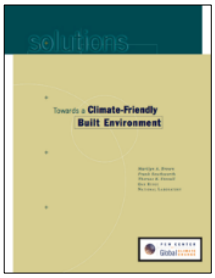
S.V. Valentine, M.A. Brown, and B. K. Sovacool (2019) *Empowering the Great Energy Transition: Policy for a Low-Carbon Future* (Columbia University Press) 2019.



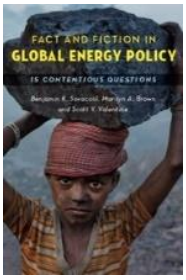
Brown, M.A., & Sovacool, B.K. (2011). *Climate change and global energy security: technology and policy options*. MIT Press.



Brown, M. A., Southworth, F. & Stovall, T. K. (2005). *Towards a climate-friendly built environment*. Pew Center on Global Climate Change.

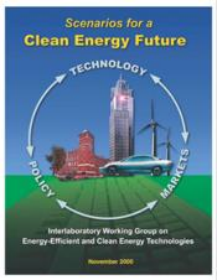


Sovacool, B.K., M.A. Brown, & S.V. Valentine (2016). *Fact and fiction in global energy policy: fifteen contentious questions*. John Hopkins University Press.

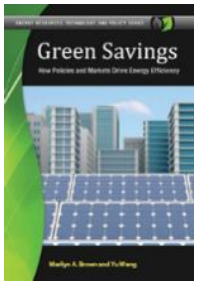


Brown, M.A., F. Southworth, & A. Sarzynski (2008). *Shrinking the carbon footprint of metropolitan America*. Brookings Institution.

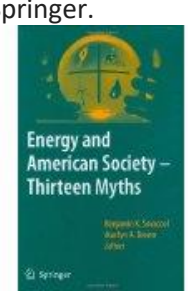
M. A. Brown, W. Short and M. D. Levine (eds.) (2000) *Scenarios for a Clean Energy Future*. Google Books. + Special Issue of *Energy Policy* in 2001.



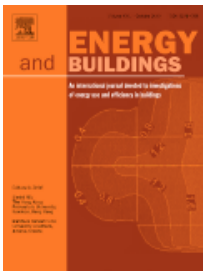
Brown, M.A., & Y. Wang (2015). Green savings: how policies and markets drive energy efficiency. ABC-CLIO.



Sovacool, B.K., & Brown, M.A. (Eds.). (2007). *Energy and American Society–Thirteen Myths*. Springer.



M. A. Brown and K. Keating (eds) (1989) Special Issue of *Energy and Buildings* devoted to *The Hood River Conservation Project*, 13(1).



Principal technical society memberships, activities and accomplishments:

- Member, U.S. Department of Energy's Electricity Advisory Committee, two terms: 2014-2018.
- Served on nine committees, panels, and boards of the National Academy of Sciences:

  - ✓ Data, Metrics, and Analytic Methods for Assessing Equity Impacts of Surface Transportation Funding Programs, 2021-2024
  - ✓ Geographical Sciences Committee, 2016-2019
  - ✓ Committee on Urban Sustainability, 2014-2016
  - ✓ Board of Energy and Environmental Systems, 2006-2012 (two terms)
  - ✓ Panel on Redesigning the Commercial Buildings and Residential Energy Consumption Surveys of the Energy Information Administration, 2010-2012
  - ✓ America's Climate Choices, 2008-2011
  - ✓ Limiting the Magnitude of Climate Change Panel (Co-chair), 2008-2011
  - ✓ America's Energy Choices: Energy Efficiency, 2007-2009
  - ✓ Alternatives to the Indian Point Nuclear Plant, 2004-2007.

- Ambassador for Clean Energy, Education and Empowerment (C3E), designated by the U.S. Department of Energy in 2012 and announced at the first Clean Energy Ministerial in London, 2012-2021.
- U.S. Presidential Appointee (U.S. Senate confirmed): Board of Directors, Tennessee Valley Authority, two terms: 2010-2018.
- Member, Advisory Committee, U.S. Department of Energy's Energy Efficiency and Renewable Energy Industrial Technologies Program, 2008-2009.
- Elected to the Policy Council, Association for Public Policy Analysis and Management, 2006-2009.
- Appointed, National Commissioner on Energy Policy, Bipartisan Policy Center, Washington, DC. 2002-2009.
- Member, U.S. Environmental Protection Agency, Board of Scientific Counselors, Office of Research and Development, 1996-2000.
- Elected National Councilor of the Association of American Geographers, 1988-1991
- National Science Foundation: Review Panel Member, Geography and Regional Science Division, 1984-1986

Professional Recognition (Honors and Awards)

- Distinguished Professor, Georgia Tech Class of 1934 Award, 2022
- World Citizen Prize in Environmental Performance, by the Association for Public Policy Analysis and Management (APPAM) 2021
- Regents' Professor, Georgia State Board of Regents, 2017-2023.
- Election to the National Academies of Science and Engineering, 2020
- "Champion of Energy Efficiency in Industry," American Council for an Energy-Efficient Economy, 2017.
- Alliance to Save Energy "Pioneer" Award to TVA for its Energy Efficiency Planning Model, 2016
- Brook Byers Chaired Professor in Sustainable Systems, 2014-2023.
- "Who's Who in Sustainability," Atlanta Business Chronicle, 2013.
- Planning Committee, 2016-2018, U.S. Department of State, Sixth Intergovernmental Panel on Climate Change (IPCC).
- Review Editor, 2011-2014, U.S. Department of State, Fifth Intergovernmental Panel on Climate Change (IPCC), *Climate Change 2014: Mitigation of Climate Change.*
- Co-Author Intergovernmental Panel on Climate Change Working Group III Assessment Report on

Mitigation of Climate Change, Chapter 6. Authors of this report were co-recipients of the 2007 Nobel Peace Prize.

- Southface Energy Institute Award of Excellence "In recognition of exemplary leadership and a lifetime of advocacy for energy efficiency," 2010.
- Vice-Chair, 2006, U.S. Department of Energy, U.S. Government Review of the Second Order Draft IPCC Report: *Climate Change 2007: Mitigation of Climate Change.*
- Anderson Medal of Applied Geography, Association of American Geographers, 2003, and 2008 Anderson Medal distinguished lecture.
- Co-recipient, U. S. Department of Energy Research Partnership Award, presented to Southwire Company and the ORNL Superconductivity Program for Electric Systems for the 3M Coated Conductor Development Project, 2001
- Commendation from Energy Secretary Hazel R. O'Leary for publication of "Weatherization Works," December 1993.
- "Champion of Energy Efficiency," American Council for an Energy-Efficient Economy, for co-leading the five-laboratory study titled "Scenarios of U.S. Carbon Reductions," which President Clinton acknowledged as a basis for signing the 1997 Kyoto Protocol, 1998.

Awards from Oak Ridge National Laboratory: (1) co-leading the five-laboratory study titled "Scenarios of U.S. Carbon Reductions," November 1997, (2) leading the "National Evaluation of DOE's Weatherization Assistance Program," July 1993; (3) Citation for Research Excellence in 1989; (4) Significant Event Award in 1997 for the study "Technology Opportunities to Reduce U.S. Greenhouse Gas Emissions," and (5) Small Business Program Advocate Award 2002.

Corporate Honoree, YWCA Tribute to Women, 1994; Award for Distinguished Contribution to "Science Management and Policy Implementation," American Women in Science, May 1992; Gold Medal Award issued by the Technology Transfer Society for the best paper published in the 1989-1990 *Journal of Technology Transfer*; Best Paper Award, The 12th Annual Meeting & International Symposium of the Technology Transfer Society, 1987; C. C. Huntington Memorial Award, 1976, an award made periodically by The Ohio State University, Department of Geography to "outstanding graduate students"; University Fellow, The Ohio State University, 1973-77.

Congressional and Regulatory Briefings and Testimonies

- Testimony before the Georgia Public Service Commission on Georgia Power's 2022 Integrated Resource Plan (Docket 44160) and Demand Side Management Plan (Docket 44161). 5/26/2022. https://psc.ga.gov/search/facts-document/?documentId=189985.
- Briefing to Assistant Secretary Bruce J. Walker, Office of Electricity, U.S. Department of Electricity, February 20, 2018, on activities of the DOE's Electricity Advisory Committee's Smart Grid Subcommittee.
- Testimonies to the Florida Senate Committee on Communications, Energy, and Public Utilities and the Florida House Energy & Utilities Subcommittee, on "Renewable Energy in the South," February 21-22, 2011.
- Testimony to the U.S. Senate Environment and Public Works Committee on "Priorities for the Tennessee Valley Authority," 2010.
- Congressional briefing hosted by the American Chemical Society's Science and Congress Project; Co-hosted by Rep. Gabrielle Giffords (D-AZ) and Rep. Ralph Hall (R-TX), December 15, 2008
- Congressional briefing in a Hearing on "Can a National Renewable Portfolio Standard Increase Energy Security, Reduce Emissions, and Lower Costs," Sponsored by the Environment and Energy Study

Institute, July 11, 2007,

- Energy Efficiency Workshop for staff of the U.S. House of Representatives Committee on Energy and Commerce Committee, July 2007.
- Testimony to North Carolina Legislative Commission on Global Climate change, "Discussion of the technology options related to global climate change by sector," April 25, 2006.
- Expert Witness on Climate Change Technologies. Testimony before the Energy Subcommittee of the U.S. House of Representatives' Committee on Science. Hearing on November 6, 2003.
- Expert Witness, Testimony before the U.S. Senate Committee on Environment and Public Works. Hearing on "Global Climate Change and Issues Related to Reducing Net Greenhouse Gas Emissions." May 2001.

Advisory Committees and Boards

Recent/Current Advisory Committees and Boards: Oak Ridge Associted Universities (2021-2014); DOE Electricity Advisory Board, 2014-2018; Member, Research Advisory Council, Electric Power Research Institute, 2010-2012, U.S. Department of Energy Peer Review Committee for the Industrial Technologies Program, 2008-2009; Lawrence Berkeley National Laboratory Energy and Environmental Division, 2009; Natural Resources Defense Council's Project on Climate Mitigation Modeling, 2008-2009; Pew Center on States' Committee on "Green Scorecards", 2008-2009; Harvard University's Energy Research Committee, 2008-2009.

Selected Past Advisory Committees: University of Kansas, Transportation Research Institute, 2006-2007; World Energy Engineering Congress, 2004-2006; Energy and Environmental Technologies Division, Lawrence Berkeley National Laboratory, 1998-99; Iowa Energy Center (Chair), 1998-99; University of Tennessee's Energy, Environment and Resources Center, 1996-98; New York State Energy Research and Development Authority, 2000.

Selected Research (Principal investigator on research projects > $25 million)

PI, 2022-2023, Sierra Club, "Causal Analysis of Energy Burdens of Black Households"
PI, 2019-2022, Ray C. Anderson Foundation, "Georgia Carbon Drawdown."
PI, 2018-2022, Philanthropic gift, "Sustainable Energy and Environmental Management."
PI, 2016-2023, ORNL, Joint Faculty Appointment
PI, 2017-2018, Natural Resources Defense Council. "Biomass Economics."
PI, 2015-2017, Energy Foundation. "Energy Efficiency and Clean Energy Jobs."
PI, 2016-2018, U.S. Department of Energy, Support for Mission Innovation and the Quadrennial Energy Review.
PI, 2006-2018, ORNL, "Core University Liaison" for Georgia Tech; 2006-2016
PI, 2014-2015, Strategic Energy Institute, "Future of the Electric Grid in the Southeast".
PI, 2013, Southface Energy Institute and Energy Foundation, "Expanded Capacity for Modeling Energy Efficiency in the Southeast".
Co-PI with Elsa Reichmanis, 2011-2018. National Science Foundation. Integrative Graduate Education and Research Training (IGERT) award to enhance multidisciplinary training in the skills required for conducting research in energy science, technology and policy, with a focus on advanced materials.
PI, 2009-2016, U.S. Department of Energy, "Behaviorally Energy-Efficiency Based Policies". Uses the National Energy Modeling System in conjunction cost-benefit analysis to evaluate alternative policy options.
PI, 2010-2012, Oak Ridge National Laboratory, "Eastern Interconnection Demand-side Resource Assessment".
PI, 2009-2011, Energy, Turner and Kresge Foundations, "Integrated Analysis of the Cost and Availability of Supply- and Demand-Side Electricity Resources in the Southeast".

Co-PI with Jan Youtie, 2008-2009. Georgia Board of Regents, *Energy and Environmental Workforce: Supply and Demand in Georgia*, $20,000.
PI, 2007-2008, Southeast Energy Efficiency Alliance and Appalachian Regional Commission, *Potential for Energy Efficiency Improvements in the Appalachian Region.*
PI, 2007-2008, Brookings Institution, *Shrinking the Carbon Footprint of Metropolitan America*.
PI, 2007-2008, Sloan Center grant, *Potential Impacts of Energy and Climate Policies on the U.S. Pulp and Paper Industry*.
PI, 2006-2008, U.S. Department of Energy, *Development of a National Strategy for the Deployment of Greenhouse Gas-Reducing Technologies.*
PI, 2005-2006, U.S. Department of Energy, *R&D Portfolio Review* of the Multi-agency Climate Change Technology Program.
PI, Pew Center on Global Climate Change. 2004. *Towards a Climate Friendly Built Environment.*
PI, Cooperative program on technology transfer from National Laboratories with the Education and Research Consortium of the Western Carolinas, 2004-2006.
Co-PI, *U.S. Department of Energy*. 1996-2001. Two multi-laboratory studies:

- *Scenarios of U.S. Carbon Reductions: The Potential Impact of Energy-Efficient and Low-Carbon Technologies*. *President Clinton cited this study as providing the support that enabled the U.S. Administration's support for the U.S. goal for greenhouse gas reductions proposed at the 1997 Kyoto summit on global climate change.* https://digital.library.unt.edu/ark:/67531/metadc694703/m2/1/high_res_d/563139.pdf

- *Scenarios for a Clean Energy Future.* When published in November 2000, this was the most detailed scenario analysis of potential U.S. carbon emissions reductions ever funded by the U.S. government. *It provided a foundation of analysis for the U.S. discussions at the 6th Conference of the Parties to the United Nations Framework Convention on Climate Change in the Hague in November 2000.* https://www.nrel.gov/docs/fy01osti/29379.pdf

Courses Taught

Energy Policy and Technology (co-listed with Industrial Systems Engineering); Utility Policy and Regulation; Energy Policy and Markets; Materials for Energy Systems and Energy Policy (cross-listed with Mechanical Engineering); Environmental Finance; Economic, Urban, Regional, Environmental, and Social Geography; Statistical Techniques for the Social Sciences; Urban and Environmental Geography Seminars; Social and Environmental Indicators; and Technology Management and Diffusion.

Consulting Activities

RTI International, Design and Evaluation of Demand-Side Management Programs in Abu Dhabi, United Arab Emirates, 2008-2009.
GE-Energy Services, GE Energy Certificate Program in Business Management of Energy Technologies, 2008.
Pew Charitable Trusts, Assessment of past projects and future directions in environmental and climate change areas, 1998.
Faculty Research Development Program, West Virginia University Regional Research Institute, 1994-96.
Evaluation of California demand-side management programs. California Public Utilities Commission and Southern California Edison Company, 1994-95.
Evaluation of U.S. demand-side management programs. London Economics, Ltd., 1993-94; Program evaluation and strategic planning. New York State Energy Research and Development Authority, 1989-96; Cook County State's Attorney's Office, 1984. Testified before the Illinois Public Utility Commission on performance

contracting approaches to financing energy efficiency improvements.

Elected Offices, Editorial Boards, and Other Professional Activities

Co-Founder and Chair, Board of Directors, Southeast Energy Efficiency Alliance, 2006-2009.
Commissioner, National Commission on Energy Policy, 2002-2009.
Elected Chair, Energy and Environment Specialty Group, Association of American Geographers, 1986 to 1988 and 1994 to 1996. Elected Director of two other AAG Specialty Groups.
Provided briefings to the President's Council of Economic Advisors, Office of Science and Technology Policy, the Office of Management and Budget, committees of the U. S. House of Representatives and Senate, committees of the National Association of Regulatory Utility Commissioners, and several State Public Utilities Commissions, the New York Independent System Operator, and the North Carolina Commission on Climate Change.
Served on an EPA Advisory Committee overseeing the development of Conservation Validation Protocols (1993) and served as a member of the review panel for EPA's Environmental Technology Initiative (1995).
Co-Editor: Energy and Environment, newsletter of the Energy and Environment Specialty Group, Association of American Geographers, 1991-92 and 1994-96; and Women in Geography, newsletter of the Committee on the Status of Women in Geography, Association of American Geographers, 1983-84. Initiated an Urban Geography Dissertation Competition, which continues to attract nationwide participation. Participated as a member of the Long-Range Planning Committee, Urban Geography Specialty Group, 1985-86. Member of the planning committee for the 1993 National Meeting of the AAG. Member, Publications Committee, Association of American Geographers, 1983-86.
Editorial Boards: Journal of Energy Efficiency, 2008-present; Journal of Technology Transfer, 1997-99 and 2002-2006; Applied Geography Studies, 1996-98; Economic Geography, 1991-95; Home Energy, 1990-95; The Professional Geographer, 1987-90; and Annals of the Association of American Geographers, 1984-87.
Board of Directors, Alliance to Save Energy, 1998-2009; American Council for an Energy-Efficiency Economy, 2001-2009; Home Energy, 1995-2003.

Seminars and Presentations

Seminars and presentations at universities, research institutes, and government agencies in 40 of the U.S. states including: the National Renewable Energy Lab, Los Alamos National Lab, Oak Ridge National Lab, Argonne National Lab, Brookhaven National Lab. the National Academy of Sciences, National Academy of Engineering, Clemson University, Vermont Law School, Vanderbilt University, University of Georgia, Stanford University, Duke University, the University of Alabama, Northern Illinois University, the University of California-Santa Barbara, University of California-Davis, the University of Illinois, Indiana University, the Ohio State University, the University of Iowa, the University of Tennessee, Arizona State University, Pennsylvania State University, Michigan State University, Johns Hopkins University, Rutgers University, the Massachusetts Institute of Technology, Stanford University, University of Central Florida, Texas A&M University, Emory University, Iowa State University, and the University of Kentucky.

The impact of my work has been felt across the globe as the result of active international consultations and collaborations conducted in affiliation with universities, research institutes, and government agencies in numerous countries. Many of these affiliations involved visits of several weeks or a month including government workshops, academic lectures, and interviews with local press focused on the mechanics and importance of implementing policies and technologies to promote a clean energy transition. Consultations were conducted and talks were given at, for example at: King Abdullah University of Science and Technology, Oxford University, the Tyndall Center for Climate Change at Newcastle University, Imperial College of London, Warwick University,

the Science Policy Research Unit at the University of Sussex, the Paris School of International Affairs, the Potsdam Institute for Climate Impact Research, the University of Groningen, IEA-Paris, and the IEA Center for the Analysis and Dissemination of Energy-Efficient Technologies, Aarhus University, Norwegian University of Science and Technology, Copenhagen University, the Korea Advanced Institute of Science and Technology, the Korea Atomic Energy Research Institute, the University of Kyushu, Nagoya University, City University of Hong Kong, Beijing Institute of Technology, Tianjin University, and the National University of Singapore.

****

Selected seminars, presentations, videos, and podcasts:

"First Mover Advantages Amid a Clean Energy Boom" 9th

"Geospatial Dimensions of Energy Inefficiency and Equity" Geographical Science Committee, National Academy of Sciences (6.11.2020)

International Workshop on Advances in Cleaner Production (IWACP) Melbourne, Australia (5.26.2020)

"Green Innovation for Sustainable Growth" Global Innovative Growth Forum, Ministry of Economy and Finance, Republic of Korea (12.9.2020)

"Empowering the Great Energy Transition While Fossil Fuels are Still Abundant: The U.S. Challenge," Oxford University, June 18, 2019, https://www.energy.ox.ac.uk/wordpress/wp-content/uploads/2019/06/Empowering-the-great-energy-transition-while-fossil-fuels-are-still-abundant-The-U.S.-challenge.pdf

"Vulnerability of U.S. Infrastructure to Coastal Flooding," National Academies of Sciences, December 6, 2018.

"EVs + Renewables: A Merger of Complementary Adaptation Strategies," Geography 2050: American Geographical Society, Fall Symposium on Energy Adaptation Strategies, Columbia University, November 16, 2018.

"Technologies and Policies for a Sustainable Energy Future," 2017 Energy Infrastructure Symposium, Boston, November 13, 2017, https://cepl.gatech.edu/sites/default/files/attachments/Borealis-11-13-17%20Brown.pptx.

"Energy and Society", Tyndall Center Assembly Day, Newcastle upon Tyne, England, September 12, 2017.

"Shifting the Energy Mix in a post-Paris World", American Geophysical Union 2016 Fall Meeting, San Francisco, CA, Dec. 13, 2016.

"Progress in Energy and Carbon Management in Large U.S. Metropolitan Areas," International Conference on Applied Energy, Abu Dhabi, UAE, March 30, 2015.

"Smart Grid Technologies and Policies for a Clean Energy Transition", Symposium on Energy Transition Challenges, City University of Hong Kong, May 20, 2014.

Selected Podcasts and Videos

Localized Roadmaps to Fight the Climate Crisis, National Academies of Sciences, April 30, 2022

The Forecast for Solar, Podcast with energy leaders on February 16, 2022

Podcast about the transition to clean energy technologies, with Commissioner Tim Echols on March 13, 2021

Climate Reporting Master Class March 18, 2021

Solve Climate by 2030 April 9, 2021

Guiding Principles for Sound Energy Policy, February 10, 2021

Building Electrification: Politics-Economics-Infrastructure July 15, 2020

Weather Geek Interview on Drawdown Georgia, April 22, 2020

The Future with a Green New Deal, October 30, 2019.

Vulnerability of U.S. Energy Infrastructure to Coastal Flooding, December 6, 2018.

Energy Adaptation Strategies, American Geographical Society, Nov. 16, 2018.

Enabling the Great Energy Transition, Fries Lecture, October 18, 2018.

Integrating Distributed Resources into the U.S. Power System, November 3, 2017.

"Is energy efficiency a worthwhile investment?" September, 2016.

"Made in Kentucky: Energy Efficiency Jobs and Opportunities" 2015.

"Perspectives on Energy Efficiency" National Press Club, May 2, 2014.

Technologies and Policies for a Sustainable Energy Future. TedX Talk. 2014.

C3E Women in Clean Energy Panel Discussion 2015.

C3E Women in Clean Energy on Energy Decarbonization 2016.

Book Debate: *Climate Change and Global Energy Security*.

"Sustaining the City: Understanding the Role of Energy and Carbon Dioxide Emissions in Sustainable Development in Major Metropolitan Areas", ACEEE, Monterey, CA, August 20, 2014.

"Moving Technologies from the Lab to the Marketplace" C3E Women in Clean Energy, MIT, Cambridge, MA, September 20, 2013.

"Demand-side Management Policies and Alternative Futures for the Electricity Sector" UK Energy Research Center Summer School, Warwick University, Coventry, England, June 9, 2013.

"Evaluating a Federal Cogeneration Policy: Could it Strengthen U.S. Competitiveness and Generate Energy Jobs?" *Annual Meeting of the U.S. Clean Heat and Power Association,* October 7, 2011. https://cepl.gatech.edu/sites/default/files/attachments/BROWN_USCHPA_FINAL.pdf

"Competing Dimensions of Energy Security," *POLINARES Workshop on Energy Security,* Paris School of International Affairs, June 1, 2011.

"Federalism and Polycentric Governance," *National Academy of Arts & Sciences Workshop,* Washington, DC, May 20, 2011. http://www.amacad.org/events/alternativeEnergy/brown.pdf.

"Setting the Stage for a Low-Energy Building Stock," *ACEEE Forum,* Washington, DC, March 7, 2011, http://www.aceee.org/files/pdf/conferences/30th/building/Brown.pdf

"Nuclear Energy and the Transition to a Sustainable Energy Future," *Women in Nuclear Conference,* Oak Ridge National Laboratory, February 8, 2011.

"Renewable Energy in the South," Renewable Energy in the South," Southeast U.S./Japan Annual Meeting, Nashville, TN, October 18, 2010.

"Science, Society, and Sustainable Economic Growth," U.S.–European Summit, Washington, DC, September 28, 2010.

"Limiting the Magnitude of Future Climate Change," National Academy of Engineering Convocation, Washington, DC, April 19, 2010.

"Energy Efficiency in the South," Congressional briefing sponsored by EESI, Washington, DC, April 12, 2010.

"Shrinking the Carbon Footprint of Metropolitan America," Toward Low-Carbon Cities: Understanding and Analyzing Urban Energy and Carbon, Nagoya, Japan, February 16-18, 2009

"The Role of Energy Efficiency in a Federal Renewable Energy Standard," EUCI RPS Symposium, Washington, DC, March 27, 2008.

"Including Efficiency: A National Sustainable Energy Portfolio," Congressional briefing sponsored by EESI, July 11, 2007. http://www.eesi.org/files/Marilyn_Brown.pdf

"Feasible Efficiency Improvements, Real World Constraints, and Carbon Emission Implications," U.S. House of Representatives Committee on Energy and Commerce's Workshop on Energy Efficiency. March 2, 2007.

"Energy Efficiency: Progress and Opportunities," at the Global Climate and Energy Project Symposium at Stanford University, October 1, 2007.
http://gcep.stanford.edu/pdfs/kUXNHroC3cAssx6wJoz_Mg/Brown-20071001-GCEP.pdf

"Towards a Climate-Friendly Built Environment" June 2005, National Press Club, Washington, DC.

****

I have served on the planning committees for many national and international conferences including the 1989, 1991, 1993, 1995, 1997, and 1999 National Energy Program Evaluation Conferences, the 1991 and 1992 Affordable Comfort Conferences, and the 1994, 1996, and 2010 Summer Study on Energy Efficiency in Buildings organized by the American Council for an Energy-Efficient Economy. I co-chaired the 1998 Summer Study on Energy Efficiency in Buildings, with Helmut Feustel of Lawrence Berkeley National Laboratory.

Selected other presentations: Plenary panelist at the 2006 National Conference on Science, Policy and the Environment, Illinois Energy Forum, International Energy Agency, National Association of Regulatory Utility Commissioners, Electricity Consumers Resource Council, Electric Power Research Institute, and the National Institute of Standards and Technology.

Chair or member of numerous graduate committees while at Georgia Tech.

Masters students advised and their current affiliations (partial list):

Lindsay Averett, Oglethorpe Power
Aline Banboukian, Georgia Tech PhD student
Elise Logan, Booz Allen Hamilton
Nancy McGee, Deloitte
Jess Chandler, EMI Consulting
Matt Cox, The Greenlink Group
Fanny Guezennec, EcoAct Corporation
Elizabeth Noll, Natural Resources Defense Council
Dong-Yeon Lee, Argonne National Laboratory
Cecelia Shutters, U.S. Green Building Council
Ben Staver, ICF International
Jeff Hubbs, Emory University
Daniel D'Arcy, U.S. Environmental Protection Agency
Usayd Casewit, World Bank
Alyson Laura
Valentina Sanmiguel

PhD students advised (N=19): Susan Macey, Paul Rollinson, Jess Chandler, Youngsun Baek, Nilgun Atamturk, Joy Wang, Matt Cox, Ben Deitchman, Yu Wang, Anmol Soni, Majid Ahmadi, Xiaojing Sun, Yeong Jae Kim, Gyungwon Kim, Alexander Smith, Shan Zhou, Yufei Li, Oliver Chapman, Snehal Kale, Majid Ahmadi.

Member of PhD Committee (N=6 SPP, 16=other disciplines): Mohan Taruga (Public Policy), Elena Harari (Public Policy), Diran Soumoni (Public Policy), Caroline Golin (Public Policy), Ben Jordan (Public Policy), Marty Sung (City and Regional Planning), Ji Hyun Kim (Architecture), Dong Gu Choi (Industrial Systems Engineering), Harjeet Johal (Electrical and Computational Engineering), Marcelo Sandoval (Electrical and Computational Engineering), Fei Zhao (Architecture), Brent Weigel (Civil and Environmental Engineering), Anthon Sonnenberg (Civil and Environmental Engineering), Dieudonne Batsy (Montreal Polytechnic), Jenna McGrath

(Public Policy), Fikret Atalay (Civil and Environmental Engineering), Cal Abel (Mechanical Engineering), Jan Yunchen (Civil and Environmental Engineering), Hongyang Zou (College of Management and Economics, Tianjin University), Zixing Wang (Industrial and Systems Engineering), Ross Beppler (Public Policy).

At the University of Illinois Geography Department, I served on the Campus-wide Instructional Computer Use Committee, was a member of the Statistics Program Faculty for three years, and served on the Board of Directors of the Social Science Quantitative Laboratory for six years.

Current or Recent Organizational Memberships

Association of Energy Engineers
Association of American Geographers
Association for Public Policy Analysis and Management

Referee Activities

Reviewed articles and monographs for the following publications: Applied Energy, Urban Studies, Environmental Research Letters, Energy Research and Social Science, Journal of Energy Efficiency, Climate Change, Journal of Regional Studies, Applied Geography, Technology Transfer Journal, Annals of the Association of American Geographers, Science, Energy Policy, Journal of Regional Science, International Regional Science Review, The Professional Geographer, Environment and Planning, Urban Geography, Resource Papers of the AAG, Political Geography Quarterly, Women's Studies International Forum, Journal of Geography, Economic Geography, Geographical Analysis, Applied Psychological Measurement, Urban Studies, Growth and Change, Environmental Science & Technology, Current Opinion in Environmental Sustainability, and Social Science Quarterly.

Reviewed research proposals for: the New York State Energy Authority, the Regional Research Institute of the West Virginia University, DOE, EPA, NIH, NSF, and the Rockefeller Foundation.

Manuscripts under Development

"Drawdown Georgia Business Compact: A Partnership Advancing Collective Business Action for Climate Mitigation." Draft book chapter.

"Do Coal Plant Closures Serve Environmental Justice to Black Communities? Health Outcomes from a Natural Experiment" by Ghodeswar, Archana and Marilyn A. Brown. Draft journal article.

"Co-adoption of Climate Technologies, Submitted to *Energy Research and Social Science*.

"What Return-on-Investment is Required for Household Electrification? A New Approach to Willingness to Pay," Draft journal article.

Manuscripts under Review and Forthcoming

Liu, Xi; Du, Huibin; Tang, Ling; Bo, Xin; Li, Jiashuo; Zuo, Jian; Brown, Marilyn; Jia, Min; Feng, Kuishuang, "Relocating industrial plants delivers win-win emission-reduction benefits to origin and destination regions" *Environmental Science & Technology,* forthcoming.

Brown, M.A. et al., Jasmine Crowe, John Lanier, Michael Oxman, Roy Richards, Jr., L. Beril Toktay. 2023. "Drawdown Georgia Business Compact: A Partnership Advancing Collective Action for Climate Mitigation" forthcoming book chapter.

Dong-Yeon Lee; Alana Wilson; Melanie H. McDermott; Robert Kaufmann; Raphael Isaac; Benjamin Sovacool; Cutler Cleveland; Bo Liu; Margaret Smith; Marilyn Brown; Eric Wood; Jacob Ward; Jeff Gonder, *Quantifying Inequality in the Distribution of Electric Vehicle Adoption and Charging Infrastructure in the United States*, under review by *Energy Policy.*

Anmol Soni, Marilyn A. Brown, Benjamin K. Sovacool, "Values, actions, and opinions for low-carbon mobility: Assessing public support for Electric Vehicles in the Nordic region" under review.

Journal Articles (N=141)

- Brown, M.A., R. Tudawe, and H. Steimer. 2022. Carbon drawdown potential of utility-scale solar in the United States: Evidence from a case study of Georgia. *Renewable and Sustainable Energy Reviews* 161 (June): pages 112318. https://doi.org/10.1016/j.rser.2022.112318

- Matisoff, Daniel C., Marilyn A. Brown, and Snehal Kale. 2022. "Modernizing the Energy Infrastructure at Federal Facilities: Should Utilities Play a Bigger Role?" *Electricity Journal,* Volume 34 (2), March. https://doi.org/10.1016/j.tej.2022.107078

- Brown, M.A., J. Hubbs, X.V. Gu, and M.-K. Cha. 2021. Rooftop Solar for All: Closing the Gap Between the Technically Possible and the Achievable Potentials. *Energy Research and Social Science* 81 (November), pages 102285. https://doi.org/10.1016/j.erss.2021.102203

- Brown, Marilyn A. and Valentina Sanmiguel Herrera (2021), "Combined Heat and Power as a Platform for Clean Energy Systems," *Applied Energy,* Vol. 304, December, 117686 https://doi.org/10.1016/j.apenergy.2021.117686

- Brown, Marilyn A. and Oliver Chapman (2021), "The Size, Causes, and Equity Implications of the Demand-Response Gap"*, Energy Policy,* 158 (November), pages 112533. https://doi.org/10.1016/j.enpol.2021.112533

- Brown, Marilyn A., Puneet Dwivedi, Sudhagar Mani, Daniel Matisoff, Jacqueline E. Mohan, Jeffrey Mullen, Michael Oxman, Rodgers, Richard Simmons, Blair Beasley, Lalith Polepeddi (2021). "A Framework for Localizing Global Climate Solutions and their Carbon Reduction Potential," *Proceedings of the National Academy of Sciences,* 118 (31); https://doi.org/10.1073/pnas.2100008118

- Romero-Lankao, Patricia; Wilson, Alana; Miller, Clark; Sperling, Joshua; Sovacool, Benjamin; Zimny-Schmitt, Daniel; Gearhart, Chris; Muratori, Matteo; Bazilian, Morgan; Southworth, Frank; Zuend, Daniel; Young, Stanley; Wood, Eric; Brown, Marilyn; Arent, Douglas (2021), "Of Actors, Cities and Energy Systems: Analyzing the Transformative Potential of Urban Electrification," Progress in Energy, Volume 3. https://doi.org/10.1088/2516-1083/abfa25

- Brown, Marilyn A., Blair Beasley, Fikret Atalay, Kim M. Cobb, Puneet Dwivedi, Jeffrey Hubbs, David M. Iwaniec, Sudhagar Mani, Daniel Matisoff, Jacqueline E. Mohan, Jeffrey Mullen, Michael Oxman, Daniel Rochberg, Michael Rodgers, Marshall Shepherd, Richard Simmons, Laura Taylor, L. Beril Toktay.

(2021) "Translating a Global Emission-Reduction Framework for Subnational Climate Action: A Case Study from the State of Georgia," *Environmental Management.* 67: 205-227. https://doi.org/10.1007/s00267-020-01406-1.

- Jan, Yunchen, Marilyn A. Brown, Deyou Yu, and John Crittenden. (2021) "Policy Incentives and Social Cost of Emissions for Promoting Decentralized Energy Production: A Life Cycle Cost Analysis," *Journal of Cleaner Production,* 282, February, 125394.

- Brown, Marilyn A., 2021. "Could the U.S. Become a Role Model for Electricity Decarbonization?" *One Earth,* https://doi.org/10.1016/j.oneear.2021.04.004,

- Brown, M.A., A, Soni, M.V. Lapsa, K.A. Southworth, M. Cox. (2020) "High Energy Burden and Low-Income Energy Affordability: Conclusions from a Literature Review," *Progress in Energy,* Vol. 2 (4), https://dx.doi.org/10.1088/2516-1083/abb954

- Brown, Marilyn A., Anmol Soni, Ameet D. Doshi, and Charlotte King. (2020) "The Persistence of High Energy Burdens: A Bibliometric Analysis of Vulnerability, Poverty, and Exclusion in the United States," *Energy Research and Social Science,* Vol. 70, September. https://doi.org/10.1016/j.erss.2020.101756

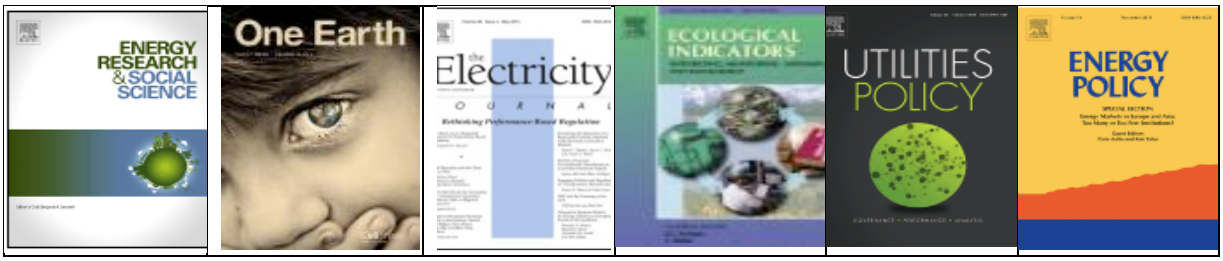
- Brown, Stephen P.A, Marilyn A. Brown, Reinhard Madlener, Stephen Thomas, Peng Zhou, Carlos Henggeler Antunes, Sonia Yeh, Huibin Du, and Stephane Goutte. (2020). "The continuing evolution of *Energy Policy,"* April, https://www.sciencedirect.com/science/article/pii/S030142152030210X?via%3Dihub

- Brown, M.A. Anmol Soni, and Yufei Li. (2020) "Estimating Employment from Energy-Efficiency Investments" MethodsX Volume 7, 100955, June. https://doi.org/10.1016/j.mex.2020.100955

- Brown, M.A. Yufei Li, & Anmol Soni. (2020) Are All Jobs Created Equal? Regional Employment Impacts of a U.S. Carbon Tax, *Applied Energy,* Vol. 262, 15 March, 114354 https://doi.org/10.1016/j.apenergy.2019.114354

- Brown, M.A. & Majid Ahmadi. (2019) Would a Green New Deal Add or Kill Jobs? *Scientific American,* https://www.scientificamerican.com/article/would-a-green-new-deal-add-or-kill-jobs1/

- Brown, M.A. & A. Soni. (2019). Expert perceptions of enhancing grid resilience with electric vehicles in the United States, *Energy Research and Social Science,* 2019 (57) 17 pages. https://doi.org/10.1016/j.erss.2019.101241



- Shen, Huizhong, Yilin Chen, Yufei Li, Armistead G. Russell, Yongtao Hu, Lucas R. F. Henneman, Mehmet Talât Odman, Jhih-Shyang Shih, Dallas Burtraw, Shuai Shao, Haofei Yu, Momei Qin, Zhihong Chen, Abiola S. Lawal, Gertrude K. Pavur, Marilyn A. Brown, Charles T. Driscoll. (2019) "Relaxing energy policies on top of climate

change will significantly undermine States' efforts to attain U.S. ozone standards," *One Earth,* 1(2): 229-239. https://www.cell.com/one-earth/fulltext/S2590-3322(19)30073-9

- Huibin Du, Zhenni Chen, Marilyn A. Brown, Yangyang Yna, Jian Zuo, and Lihe Chai, "How secure are national energy systems: A dynamic assessment approach." *Ecological Indicators.* Volume 18, https://authors.elsevier.com/a/1ZmFq,XRNLcsXY

- Brown, M.A., A, Soni, M.V. Lapsa, K.A. Southworth, M. Cox. (2019) "Low-Income Energy Affordability in an Era of Energy Abundance," *Progress in Energy,* Vol. 1, https://dx.doi.org/10.1088/2516-1083/ab250b

- Romero-Lankao, P., Wilson, A., Sperling, J., Miller, C., Zimny-Schmitt, D., Bettencourt, L., Wood, E., Young, S., Muratori, M., Arent, D., O'Malley, M., Sovacool, B. K., Brown, M. A., Southworth, F., Bazilian, M., Gearhart, C., Beukes, A., & Zund, D. (2019). Urban electrification: Knowledge pathway toward an integrated research and development agenda. SSRN Electronic Journal, 10. *Mansueto Institute for Urban Innovation Research Paper No. 10* https://doi.org/10.2139/ssrn.3440283

- Brown, M.A., A. Favero, V.M. Thomas, and A. Banboukian. (2019) "The Economic and Environmental Performance of Biomass Power as an Intermediate Resource for Power Production," *Utilities Policy,* 58: 52-62.

- Kim, Yeong Jae and Marilyn A. Brown. (2019) "Impact of Energy-Efficiency Policies on Innovation: The Case of Lighting Technologies." *Energy Policy,* 128, 539-552.

- Monyei, C., B. K. Sovacool, M. A. Brown, K. Jenkins, S. Viriri, and Y. Li. (2019) "Justice, Poverty, and Electricity Decarbonization," *The Electricity Journal, 32*(1), 47-51.

- Zhou, S., D.C. Matisoff, G.A. Kingsley, and M.A. Brown. (2019) "Understanding renewable energy policy adoption and evolution in Europe: The impact of coercion, normative emulation, competition, and learning" *Energy Research and Social Sciences,* 51: 1-11, https://doi.org/10.1016/j.erss.2018.12.011

- Brown, S.P.A., M. Jefferson, M.A. Brown, R. Madlener, S.D. Thomas, and P. Zhou. 2018. "Recent Developments and Future Directions at Energy Policy," *Energy Policy,* 121: A1-A2.

- Liu, X., Du, H., Brown, M. A., Zuo, J., Zhang, N., Rong, Q., & Mao, G. (2018). Low-carbon technology diffusion in the decarbonization of the power sector: Policy implications. *Energy Policy*, 116, 344-356, https://doi.org/10.1016/j.enpol.2018.02.001.

- Rudd, M. A., Moore, A. F., Rochberg, D., Bianchi-Fossati, L., Brown, M. A., D'Onofrio, D., ... & Risse, L. M. (2018). Climate research priorities for policy-makers, practitioners, and scientists in Georgia, USA. *Environmental Management*, 1-20, https://doi.org/10.1007/s00267-018-1051-4.

- Brown, M. A., & Li, Y. (2018). Carbon pricing and energy efficiency: pathways to deep decarbonization of the US electric sector. *Energy Efficiency*, 12(2), 463-481, https://doi.org/10.1007/s12053-018-9686-9.

- Zhang, W., Robinson, C., Guhathakurta, S., Garikapati, V. M., Dilkina, B., Brown, M. A., & Pendyala, R. M. (2018). Estimating residential energy consumption in metropolitan areas: A microsimulation approach. *Energy*, *155*, 162-173, https://doi.org/10.1016/j.energy.2018.04.161.

- Brown, M. A., Zhou, S., & Ahmadi, M. (2018) Smart grid governance: An international review of evolving policy issues and innovations. *Wiley Interdisciplinary Reviews: Energy and Environment*, https://onlinelibrary.wiley.com/doi/full/10.1002/wene.290.

- Robinson, C., Dilkina, B., Hubbs, J., Zhang, W., Guhathakurta, S., Brown, M. A., & Pendyala, R. M. (2017). Machine learning approaches for estimating commercial building energy consumption. *Applied Energy*, *208*, 889-904, https://doi.org/10.1016/j.apenergy.2017.09.060

- Zou, H., Du, H., Brown, M. A., & Mao, G. (2017). Large-scale PV power generation in China: A grid parity and techno-economic analysis. *Energy*, *134*, 256-268, doi:10.1016/j.energy.2017.05.192.

- Pandit, A., Minné, E. A., Li, F., Brown, H., Jeong, H., James, J. A. C., ... & Yang, P. (2017). Infrastructure ecology: an evolving paradigm for sustainable urban development. *Journal of Cleaner Production*, *163*, S19-S27.

- Valentine, S. V., Sovacool, B. K., & Brown, M. A. (2017). Frame envy in energy policy ideology: A social constructivist framework for wicked energy problems. *Energy Policy*, *109*, 623-630.

- Garikapati, V. M., You, D., Zhang, W., Pendyala, R. M., Guhathakurta, S., Brown, M. A., & Dilkina, B. (2017). Estimating household travel energy consumption in conjunction with a travel demand forecasting model. *Transportation Research Record: Journal of the Transportation Research Board*, (2668), 1-10. https://journals.sagepub.com/doi/pdf/10.3141/2668-01.

- Wang, L., Wei, Y. M., & Brown, M. A. (2017). Global transition to low-carbon electricity: A bibliometric analysis. *Applied Energy*, *205*, 57-68, http://dx.doi.org/10.1016/j.apenergy.2017.07.107.

- Batsy, Dieudonne, Marilyn Brown, Réjean Samson, Paul Stuart. Forthcoming. "Evaluating the Impact of Canadian Regional Electricity Supply Mix and Carbon Tax on Strategic Decision-Making for Forest Biorefinery Processes: A Case Study at A Pulp and Paper Mill" *Energies,* Manuscript ID: energies-190555.

- Brown, M. A., Kim, G., Smith, A. M., & Southworth, K. (2017). Exploring the impact of energy efficiency as a carbon mitigation strategy in the US. *Energy Policy*, *109*, 249-259.

- Brown, M. A. (2017). Commercial cogeneration benefits depend on market rules, rates, and policies. *Environmental Research Letters*, *12*(3), 031003.

- Johnson, E., Beppler, R., Blackburn, C., Staver, B., Brown, M., & Matisoff, D. (2017). Peak shifting and cross-class subsidization: The impacts of solar PV on changes in electricity costs. *Energy Policy*, *106*, 436-444, http://dx.doi.org/10.1016/j.enpol.2017.03.034.

- Zhou, S., & Brown, M. A. (2017). Smart meter deployment in Europe: A comparative case study on the impacts of national policy schemes. *Journal of cleaner production*, *144*, 22-32, http://www.sciencedirect.com/science/article/pii/S0959652616320868

- Brown, M. A., & Wang, Y. (2017). Energy-efficiency skeptics and advocates: the debate heats up as the stakes rise. *Energy Efficiency*, *10*(5), 1155-1173.

- Brown, M. A., Li, Y., Massetti, E., & Lapsa, M. (2017). US sulfur dioxide emission reductions: Shifting factors and a carbon dioxide penalty. *The Electricity Journal*, *30*(1), 17-24. doi:10.1016/j.tej.2016.12.007.

- Stern, P. C., Janda, K. B., Brown, M. A., Steg, L., Vine, E. L., & Lutzenhiser, L. (2016). Opportunities and insights for reducing fossil fuel consumption by households and organizations. *Nature Energy*, *1*(5), 16043. https://www.nature.com/articles/nenergy201643.

- Brown, M. A., Cox, M., Staver, B., & Baer, P. (2016). Modeling climate-driven changes in US buildings energy demand. *Climatic change*, *134*(1-2), 29-44. DOI 10.1007/s10584-015-1527-7

- Du, H., Li, B., Brown, M. A., Mao, G., Rameezdeen, R., & Chen, H. (2015). Expanding and shifting trends in carbon market research: a quantitative bibliometric study. *Journal of Cleaner Production*, *103*, 104-111 https://doi.org/10.1016/j.jclepro.2014.05.094

- Golin, C., Cox, M., Brown, M., and Thomas, V. (2015) The Water Efficiency Gap, *Sustainable Water Resources Management.* 1: 315. https://doi.org/10.1007/s40899-015-0025-4

- Sovacool, B. K., & Brown, M. A. (2015). Deconstructing facts and frames in energy research: maxims for evaluating contentious problems. *Energy Policy*, *86*, 36-42.

- Smith, A. M., & Brown, M. A. (2015). Demand response: A carbon-neutral resource? *Energy*, *85*, 10-22, https://doi.org/10.1016/j.energy.2015.02.067

- Brown, M. A., Staver, B., Smith, A. M., & Sibley, J. (2015). Alternative business models for energy efficiency: emerging trends in the Southeast. *The Electricity Journal*, *28*(4), 103-117.

- Sun, X., Brown, M. A., Cox, M., & Jackson, R. (2016). Mandating better buildings: a global review of building codes and prospects for improvement in the United States. *Wiley Interdisciplinary Reviews: Energy and Environment*, *5*(2), 188-215.

- Baer, P., Brown, M. A., & Kim, G. (2015). The job generation impacts of expanding industrial cogeneration. *Ecological Economics*, *110*, 141-153, https://doi.org/10.1016/j.ecolecon.2014.12.007.

- Brown, M. (2015). Innovative energy-efficiency policies: an international review. *Wiley Interdisciplinary Reviews: Energy and Environment*, *4*(1), 1-25.

- Pasqualetti, M. J., & Brown, M. A. (2014). Ancient discipline, modern concern: Geographers in the field of energy and society. *Energy Research & Social Science*, *1*, 122-133.

- Smith, A. M., & Brown, M. A. (2014). Policy considerations for adapting power systems to climate change. *The Electricity Journal*, *27*(9), 112-125.

- Brown, M. A., Wang, Y., Sovacool, B. K., & D'Agostino, A. L. (2014). Forty years of energy security trends: A comparative assessment of 22 industrialized countries. *Energy Research & Social Science*, *4*, 64-77. https://doi.org/10.1016/j.erss.2014.08.008

- Brown, M. A. (2014). Enhancing efficiency and renewables with smart grid technologies and policies. *Futures*, *58*, 21-33. https://doi.org/10.1016/j.futures.2014.01.001

- Du, H., Li, N., Brown, M. A., Peng, Y., & Shuai, Y. (2014). A bibliographic analysis of recent solar energy literatures: The expansion and evolution of a research field. *Renewable Energy*, *66*, 696-706. https://doi.org/10.1016/j.renene.2014.01.018

- Brown, M. A., Baer, P., Cox, M., & Kim, Y. J. (2014). Evaluating the risks of alternative energy policies: a case study of industrial energy efficiency. *Energy Efficiency*, *7*(1), 1-22.

- Cox, M., Brown, M. A., & Sun, X. (2013). Energy benchmarking of commercial buildings: a low-cost pathway toward urban sustainability. *Environmental Research Letters*, *8*(3), 035018. https://iopscience.iop.org/article/10.1088/1748-9326/8/3/035018

- Lee, D. Y., Thomas, V. M., & Brown, M. A. (2013). Electric urban delivery trucks: Energy use, greenhouse gas emissions, and cost-effectiveness. *Environmental science & technology*, *47*(14), 8022-8030, https://pubs.acs.org/doi/abs/10.1021/es400179w

- Du, H., Wei, L., Brown, M. A., Wang, Y., & Shi, Z. (2013). A bibliometric analysis of recent energy efficiency literatures: an expanding and shifting focus. *Energy Efficiency*, *6*(1), 177-190. https://doi.org/10.1007/s12053-012-9171-9

- Knox-Hayes, J., Brown, M. A., Sovacool, B. K., & Wang, Y. (2013). Understanding attitudes toward energy security: results of a cross-national survey. *Global environmental change*, *23*(3), 609-622.

- Brown, M. A., & Zhou, S. (2013). Smart-grid policies: an international review. *Wiley Interdisciplinary Reviews: Energy and Environment*, *2*(2), 121-139.

- Brown, Marilyn. 2013. "Leading with Energy Efficiency in the South," *Southface Journal,* Winter.

- Brown, M. A., Cox, M., & Baer, P. (2013). Reviving manufacturing with a federal cogeneration policy. *Energy Policy*, *52*, 264-276.

- Brown, M. A., Gumerman, E., Sun, X., Sercy, K., & Kim, G. (2012). Myths and facts about electricity in the US South. *Energy Policy*, *40*, 231-241, doi:10.1016/j.enpol.2011.09.061

- Sovacool, B. K., Valentine, S. V., Bambawale, M. J., Brown, M. A., de Fátima Cardoso, T., Nurbek, S., ... & Alhajji, A. F. (2012). Exploring propositions about perceptions of energy security: An international survey. *Environmental Science & Policy*, *16*, 44-64.

- Brown, M. A., & Sovacool, B. K. (2011). Barriers to the diffusion of climate-friendly technologies. *International Journal of Technology Transfer and Commercialisation*, *10*(1), 43-62.

- Brown, M. A., & Baek, Y. (2010). The forest products industry at an energy/climate crossroads. *Energy Policy*, *38*(12), 7665-7675.

- Brown, M.A. 2010. "Greenhouse Gases." In Warf, B., ed. *Encyclopedia of Geography* (Thousand Oaks, CA: Sage), Vol. 3, pp. 1373-1380.

- Brown, M. A., Cox, M., & Cortes, R. (2010). Transforming industrial energy efficiency. *Bridge*, *40*(3), 22-30.

- Brown, M. A. (2010). Policy Update: The multiple policy dimensions of carbon management: mitigation, adaptation and geoengineering, *Carbon Management,* 1 (1): 27-33. https://doi.org/10.4155/cmt.10.8

- Xu, Ming, John C. Crittenden, Yongsheng Chen, Valerie M. Thomas, Douglas S. Noonan, Reginald Desroches, Marilyn A. Brown, and Steve P. French. (2010). Gigaton problems need gigaton solutions. 4037-4041.

- Sovacool, B. K., & Brown, M. A. (2010). Competing dimensions of energy security: an international perspective. *Annual Review of Environment and Resources*, *35*, 77-108.

- Sovacool, B. K., & Brown, M. A. (2010). Twelve metropolitan carbon footprints: A preliminary comparative global assessment. *Energy policy*, *38*(9), 4856-4869.

- Koomey, J., Akbari, H., Blumstein, C., Brown, M., Brown, R., Calwell, C., ... & Craig, P. (2010). Defining a standard metric for electricity savings. *Environmental Research Letters*, *5*(1), 014017.

- Brown, M. A., Southworth, F., & Sarzynski, A. (2009). The geography of metropolitan carbon footprints. *Policy and Society*, *27*(4), 285-304.

- Sovacool, B. K., & Brown, M. A. (2009). Scaling the policy response to climate change. *Policy and Society*, *27*(4), 317-328.

- Brown, M. A., & Chandler, S. (2008). Governing confusion: how statutes, fiscal policy, and regulations impede clean energy technologies. *Stan. L. & Pol'y Rev.*, *19*, 472.

- Brown, M. A., & Southworth, F. (2008). Mitigating climate change through green buildings and smart growth. *Environment and Planning A*, *40*(3), 653-675.

- Brown, M. A., & Sovacool, B. K. (2008). Promoting a level playing field for energy options: electricity alternatives and the case of the Indian Point Energy Center. *Energy Efficiency*, *1*(1), 35-48.

- Brown, M. A., & Sovacool, B. K. (2007). Developing an 'energy sustainability index' to evaluate energy policy. *Interdisciplinary Science Reviews*, *32*(4), 335-349.

- Brown, M. A., York, D., & Kushler, M. (2007). Reduced emissions and lower costs: Combining renewable energy and energy efficiency into a sustainable energy portfolio standard. *The Electricity Journal*, *20*(4), 62-72.

- Brown, M. A., Sovacool, B. K., & Hirsh, R. F. (2006). Assessing US energy policy. *Daedalus*, *135*(3), 5-11.

- Sheffield, J., Obenschain, S., Conover, D., Bajura, R., Greene, D., Brown, M., ... & Kulcinski, G. (2004). Energy options for the future. *Journal of fusion energy*, *23*(2), 63-109.

- Brown, M. A. (2001, October). High-tech fixes for carbon emissions. In *Forum for Applied Research and Public Policy* (Vol. 16, No. 3, p. 107). University of Tennessee, Energy, Environment and Resources Center.

- Brown, M. A., Levine, M. D., Short, W., & Koomey, J. G. (2001). Scenarios for a clean energy future. *Energy Policy*, *29*(14), 1179-1196, https://www.nrel.gov/docs/fy01osti/29379.pdf.

- Brown, M. A. (2001). Market failures and barriers as a basis for clean energy policies. *Energy Policy*, *29*(14), 1197-1207.

- Gumerman, E., Koomey, J. G., & Brown, M. A. (2001). Strategies for cost-effective carbon reductions: a sensitivity analysis of alternative scenarios. *Energy Policy*, *29*(14), 1313-1323.

- Brown, M. A., Levine, M. D., Romm, J. P., Rosenfeld, A. H., & Koomey, J. G. (1998). Engineering-economic studies of energy technologies to reduce greenhouse gas emissions: opportunities and challenges. *Annual Review of Energy and the Environment*, *23*(1), 287-385.

- Romm, Joseph, Mark Levine, Marilyn Brown and Eric Petersen. (1998) "A Road Map for U.S. Carbon Reductions," *Science*, 279 (5351): 669-670. https://www.jstor.org/stable/2894278

- Koomey, J. G., Martin, N. C., Brown, M., Price, L. K., & Levine, M. D. (1998). Costs of reducing carbon emissions: US building sector scenarios. *Energy Policy*, *26*(5), 433-440.

- Brown, Marilyn A. 1997. "Evaluating a Technology Commercialization Program: Challenges and Solutions," *International Journal of Technology Management,* 13 (3): 229-244.

- Brown, M. A., & Voss, M. K. (1996). Exchanging energy technology information on the internet. *The Journal of Technology Transfer*, *21*(1-2), 77-83.

- Livesay, H. C., Lux, D. S., & Brown, M. A. (1996). Human factors and the innovation process. *Technovation*, *16*(4), 173-212.

- Brown, M. A., Kreitler, V., & Wolfe, A. K. (1996). The Persistence of Program Impacts: Methods, Applications, and Selected Findings. *Energy Services Journal*, *2*(3), 167-192.

- Berry, L., & Brown, M. A. (1995). Using Probability Distributions to Evaluate an Energy Conservation

Program: A Technique for Dealing with Controversy. *Evaluation and Program Planning*, *18*(3), 209-17.

- Brown, M. A., & Berry, L. G. (1995). Determinants of program effectiveness: Results of the national weatherization evaluation. *Energy*, *20*(8), 729-743.

- Hill, L. J., & Brown, M. A. (1995). Issues in assessing the cost-effectiveness of coordinated DSM programs. *Utilities policy*, *5*(1), 47-53.

- Hill, L. J. & Brown, M.A. (1995). Estimating the Cost-Effectiveness of Coordinated DSM Programs. *Evaluation Review,* 19 (2), 181-196.

- Brown, M. A., Curlee, T. R., & Elliott, S. R. (1995). Evaluating technology innovation programs: the use of comparison groups to identify impacts. *Research Policy*, *24*(5), 669-684.

- Brown, M., & Berry, L. (1994). Ten highly effective weatherization programs. *Home Energy*, *11*(3).

- Brown, M. A., & Wilson, C. R. (1993). R&D spinoffs: serendipity vs. a managed process. *The Journal of Technology Transfer*, *18*(3-4), 5-15.

- Brown, M., & Berry, L. (1993). Weatherization assistance: The single-family study. *Home Energy*, *10*(5).

- Power, M., & Brown, M. (1993). The reach of low-income weatherization assistance. *Home Energy*, *10*(3).

- Brown, M. A., Livesay, H. C., Lux, D. S., & Wilson, C. R. (1993). Demonstrations: The missing link in government-sponsored energy technology deployment. *Technology in Society*, *15*(2), 185-205.

- Brown, M. A. (1993). The effectiveness of codes and marketing in promoting energy-efficient home construction. *Energy Policy*, *21*(4), 391-402.

- Brown, M.A. and Wilson, C.R. "Government Promotion of Energy Innovations: An Evaluation of the Energy-Related Inventions Program,"*Policy Studies Journal,* 20 (1): 87-101, 1992.

- Brown, M. A., Berry, L. G., & Goel, R. K. (1991). Guidelines for successfully transferring government-sponsored innovations. *Research Policy*, *20*(2), 121-143.

- Brown, M. A., & Major, C. H. (1990). Technology-transfer strategies of DOE's conservation programs. *The Journal of Technology Transfer*, *15*(1-2), 33-40.

- Hirst, E., & Brown, M.A. (1990). Closing the efficiency gap: barriers to the efficient use of energy. *Resources, Conservation and Recycling*, *3*(4), 267-281.

- Macey, S. M., & Brown, M. A. (1990). Demonstrations as a policy instrument with energy technology examples. *Knowledge*, *11*(3), 219-236.

- Brown, M. A. (1990). The cost of commercializing energy inventions. *Research Policy*, *19*(2), 147-155.

- Brown, M. A., White, D. L., & Purucker, S. L. (1989). Energy savings of water-heater retrofits: Evidence from

Hood River. *Energy and Buildings*, *13*(1), 51-61.

- Brown, M.A. and P. Weiss. (1989) "Comparing Building Energy Analysis Software" *Home Energy,* Vol. 6 (5): pp. 13-18 (September/October) 1989.

- Brown, M.A. "The Diffusion of Ideas and Innovations," in E. Barnouw (ed.), *International Encyclopedia of Communications* (New York: Oxford University Press), April 1989.

- Brown, M. A., Berry, L. G., White, D. L., & Trumble, D. (1988). How influential is the auditor? Determinants of sales effectiveness in energy conservation programs. *Energy Systems and Policy*, *12*(2), 135-149.

- Brown, M.A. "Financing Energy Conservation: Innovative Approaches with Geographic Problems," *The Canadian Geographer*, 32(2), 169-72, 1988.

- Berry, L. G., & Brown, M. A. (1988). Participation of the elderly in residential conservation programmes. *Energy Policy*, *16*(2), 152-163.

- Brown, M. A., & White, D. L. (1988). Stimulating energy conservation by sharing the savings: a community-based approach. *Environment and Planning A*, *20*(4), 517-534. https://doi.org/10.1068/a200517

- Reeves, George and Marilyn A. Brown, M. A. (1986). "General Public Utilities: Buying Residential Energy Conservation" *Financing Energy Conservation* (Washington, D.C.: American Council for an Energy Efficient Economy), ed. M. Weedall, R. Weisenmiller, M. Shepard, pp. 123-132. https://www.researchgate.net/publication/255080036_Financing_Energy_Conservation

- Brown, M. A., Soderstrom, E. J., Copenhaver, E. D., & Sorensen, J. H. (1985). A strategy for accelerating the use of energy conserving building technologies. *The Journal of Technology Transfer*, *10*(1), 35-50.

- Soderstrom, J., Copenhaver, E., Brown, M. A., & Sorensen, J. (1985). Improving Technological Innovation Through Laboratory/Industry Cooperative R&D. *Review of Policy Research*, *5*(1), 133-144.

- Brown, M. A., & Oldakowski, R. K. (1986). The changing morphology of suburban crime. *Urban Geography*, *7*(1), 46-62.

- Brown, M. A., & Rollinson, P. A. (1984). *Residential energy consumption of low-income and elderly households: how non-discretionary is it* (No. CONF-840819-7). Oak Ridge National Lab., TN (USA); Illinois Univ., Urbana (USA).

- Brown, M. A., & Macey, S. M. (1985). Evaluating the impact of two energy conservation programmes in a midwestern city. *Applied Geography*, *5*(1), 39-53.

- Brown, M. A. (1984). Change mechanisms in the diffusion of residential energy conservation practices: an empirical study. *Technological Forecasting and Social Change*, *25*(2), 123-138.

- Brown, M. A., & Macey, S. M. (1983). Residential energy conservation through repetitive household behaviors. *Environment and Behavior*, *15*, 123-141.

- Brown, M. A., & Macey, S. M. (1983). Understanding residential energy conservation through attitudes and beliefs. *Environment and Planning A*, *15*(3), 405-416.

- Brown, M. A. (1982). Modelling the spatial distribution of suburban crime. *Economic Geography*, *58*(3), 247-261.

- Brown, M. A. (1981). Spatial diffusion aspects of marketing strategies. *The Review of Regional Studies*, *11*(2), 54-72. https://rrs.scholasticahq.com/article/9924-spatial-diffusion-aspects-of-marketing-strategies

- Brown, M. A. (1981). A typology of suburbs and its public policy implications. *Urban Geography*, *2*(4), 288-310.

- Brown, M. A., & Broadway, M. J. (1981). The cognitive maps of adolescents: confusion about inter-town distances. *The Professional Geographer*, *33*(3), 315-325.

- Brown, M. A. (1980). Do Central Cities and Suburbs Have Similar Dimensions of Need? *The Professional Geographer*, *32*(4), 400-411.

- Isserman, A. M., & Brown, M. A. (1980). Community need: Its measurement and incidence. *Papers in Regional Science*, *45*(1), 139-158.

- Brown, M. A. (1980). Attitudes and social categories: complementary explanations of innovation-adoption behavior. *Environment and Planning A*, *12*(2), 175-186. https://doi.org/10.1068/a120175

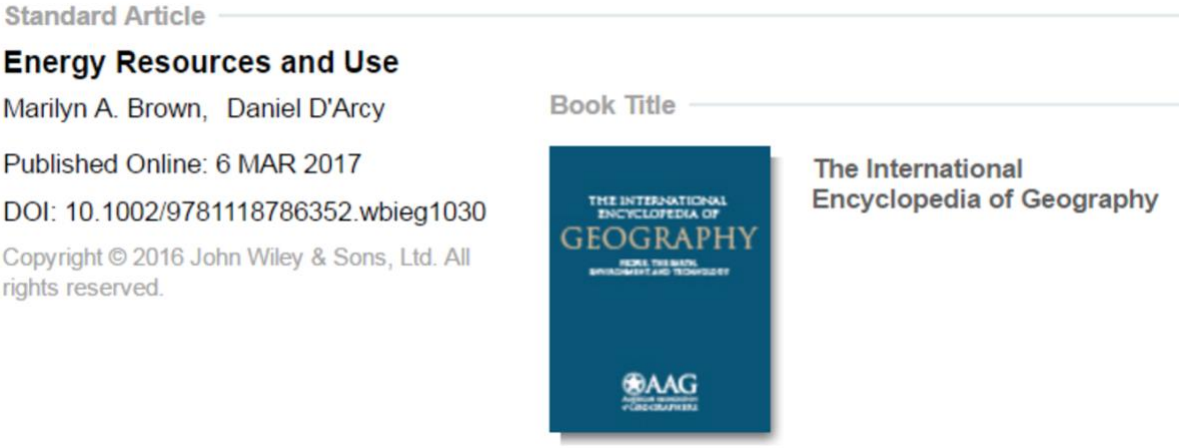
- Brown, M. A., Maxson, G. E., & Brown, L. A. (1977). Diffusion Agency Strategies and Innovation Diffusion: A Case Study of the Eastern Ohio Resource Development Center. *Journal of Regional Analysis and Policy*, *7*(1100-2016-89667): 1-26.

- Semple, R. K., Brown, L. A., & Brown, M. A. (1977). Strategies for the Promotion and Diffusion of Consumer Goods and Services: An Overview. *International Regional Science Review*, *2*(1), 91-102. https://doi.org/10.1177/016001767700200107

Book Chapters (27)

- Brown, M. A. and Sovacool, B. K. (2018). "Theorizing the Behavioral Dimension of Energy Consumption: Energy Efficiency and the Value-Action Gap", in *Oxford Handbook of Energy and Society,* Oxford University Press (eds D. J. Davidson and M. Gross), pp. 201-221. Doi: 10.1093/oxfordhb/9780190633851.013.9

- Brown, M. A. and D'Arcy, D. (2017). Energy Resources and Use. In International Encyclopedia of Geography: People, the Earth, Environment and Technology (eds D. Richardson, N. Castree, M. F. Goodchild, A. Kobayashi, W. Liu and R. A. Marston). Doi: 10.1002/9781118786352.wbieg1030


Standard Article

Energy Resources and Use

Marilyn A. Brown, Daniel D'Arcy

Published Online: 6 MAR 2017

DOI: 10.1002/9781118786352.wbieg1030

Book Title

The International Encyclopedia of Geography

- Brown, M. A. and Kim, G. (2015). "Energy and Manufacturing: Technology and Policy Transformations and Challenges. Handbook of Manufacturing in the World Economy" (eds J. R. Bryson, J. Clark, and V. Vanchan). Edward Elgar: 121-146. http://www.elgaronline.com/view/9781781003923.00019.xml.

- Baek, Y. and Brown, M. A. (2013). Biopower in the U.S. South: Barriers, Drivers, and Potential for Expansion. In Integrated Biorefineries: Design, Analysis and Optimization (eds. M. El-Hawagi and P. Stuart). CRC Press/Taylor & Francis. Chapter 25: 749-769.

- Minne, E. A.; Pandit, A.; Crittenden, J. C.; Begovic, M.; Kim, I.; Jeong H.; James, J.; Lu, Z.; Xu, M.; French, S.; Subrahmanyam, M.; Noonan, D.; Brown, M. A.; Chandler, J.; Yongsheng, C.; Williams, E.; Desroches, R.; Bras, B.; Li, K.; and Chang, M. (2013). Chapter 8: Energy and Water Interdependence for Urban Areas. In Electrical Transmission Systems and Smart Grids: Selected Entries from the Encyclopedia of Sustainability Science and Technology (eds. M.M. Begovic). New York Springer Science+Business Media.

- Brown, M. A., Chandler, J., Lapsa, M. and Ally, M. (2011). Adding a Behavioral Dimension to Residential Construction and Retrofit Policies. In Energy Smart Behaviors, People Centered Policies, and Public Engagement (eds. K. Ehrhardt Martinez and S. Laitner): 43-59.

- Brown, M. A., Chandler, J. and Lapsa, M. (2011). Adding a Behavioral Dimension to Utility Policies that Promote Residential Efficiency. In Energy Smart Behaviors, People Centered Policies, and Public Engagement (eds by K. Ehrhardt Martinez and S. Laitner): 263-277.

- Brown¸ M. A. and Dworkin, M. (2011). The Environmental Dimension of Energy Security. In Routledge Handbook of Energy Security. 176-190.

- Sovacool, B. K. and Brown, M. A. (2011). Measuring Energy Security Performance in the OECD. In Routledge Handbook of Energy Security. 381-395.

- Brown, M. A., Cortes, R. and Cox, M. (2011). Reinventing Industrial Energy Use in a Resource-Constrained World. In Energy Sustainability and the Environment. (ed. Fereidoon Sioshansi). Elsevier Press, Chapter 8: 337-366.

- Brown, M. A., Southworth, F. and Lockski, A. (2010). Transitioning to a Climate-Smart Energy Economy: Lessons from Metropolitan Carbon Footprints. In Energy Security: Economics, Politics, Strategies, and Implications. (eds. C. Pascual and J. Elkind). Washington, DC: Brookings Institution Press: 185-208.

- Sovacool, B. K. and Brown, M. A. (2009). Addressing Climate Change: Global vs. Local Scales of Jurisdiction? In Generating Electricity in a Carbon Constrained World (ed.) Fereidoon Sioshansi). Elsevier Press, Chapter 5: 109-124. https://doi.org/10.1016/B978-1-85617-655-2.00005-5

- Brown, Marilyn A., Therese K. Stovall, and Patrick Hughes. 2007. Potential Carbon Emissions Reductions in the Buildings Sector by 2030," in *Tackling Climate Change in the U.S.: Potential Carbon Emissions Reductions from Energy Efficiency and Renewable Energy by 2030,* Charles F. Kutscher (ed.) (Washington, DC: American Solar Energy Society) January, pp. 51-68. **https://www.ases.org/wp-content/uploads/2019/01/Tackling_Climate_Change_A.pdf.**

- Sovacool, B. K. and Brown, M. A. (2007). The Compelling Tangle of Energy and American Society. In Energy and American Society: Thirteen Myths. (eds. B. K. Sovacool and M. A. Brown). Springer Press: 1-22.

- Brown, M. A. (2007). Energy Myth One: Today's Energy Crisis is 'Hype'. (eds. B. K. Sovacool and M. A. Brown). Springer Press: 23-50.

- Sovacool, B. K. and Brown, M. A. (2007). Replacing Myths with Maxims: Rethinking the Relationship Between Energy and American Society. (eds. B. K. Sovacool and M. A. Brown). Springer Press: 351-367.

- Brown, M. A. (2004). Obstacles to Energy Efficiency. In Encyclopedia of Energy. 4: 465-475.

- Brown, M. A. and Short, W. (2002). The Impact of Clean Energy Policies on Renewable Energy Technologies. In Renewable Energy: Trends and Prospects. (eds. S.K. Majumdar, E. S. Miller and A. I. Panah). Pennsylvania State University Press: 426-450.

- Brown, M. A. (1994). Promoting Energy-Efficient Home Construction: The Impacts of Alternative Policy Instruments. In Energizing the Energy Policy Process: The Impact of Evaluation. (eds. J. Heilman and R. Walsh) Westport, CT, Quorum Books: 27-40.

- Brown, M. A. and Wilson, C. R. (1993). The Temporal Dimension of R&D Evaluation: Incorporating Spin-Off Benefits. In Evaluating R&D Impacts: Methods and Practice. (eds. B. Bozeman and J. Melkers) Boston, Kluwer Academic Publishers: 245-262.

- Solomon, B. D., Brown, M.A. and Freeman, L.M. (1989). The Status of Energy Geography Since Three Mile Island. In Geography in America. (eds. G. L. Gaile and C. J. Willmott). Columbus, OH, Merrill Publishing: 95-111.

- Brown, M. A., Berry, L. G. White, D. L. and Zeidler, P. (1986). The Role of Auditor Salesmanship in Residential Conservation Incentive Programs: A Case Study. In Productivity Through Energy Innovation (eds. C. B. Smith, T. Davis, and M. Keneipp) New York, Pergamon Press: 395-406.

- Brown, M. A. (1985). Design of a Residential Shared Savings Program: The General Public Utilities Experience. In Meeting Energy Challenges (eds. C. B. Smith, T. Davis, and P. W. Turnbull) New York, Pergamon Press: 151-160.

- Brown, M. A. (1985). The Urban Geography of Residential Energy Consumption. In Geographical Dimensions

of Energy (eds. F. J. Calzonetti and B. D. Solomon) Dordrecht, Holland, D. Reidel Publishing Co.: 267-286.

- Brown, M. A. (1981). Behavioral Approaches to the Geographic Study of Innovation Diffusion: Problems and Prospects. In Behavioral Problems in Geography Revisited (eds. K.R. Cox and R.G. Golledge). New York, Methuen: 123-143.

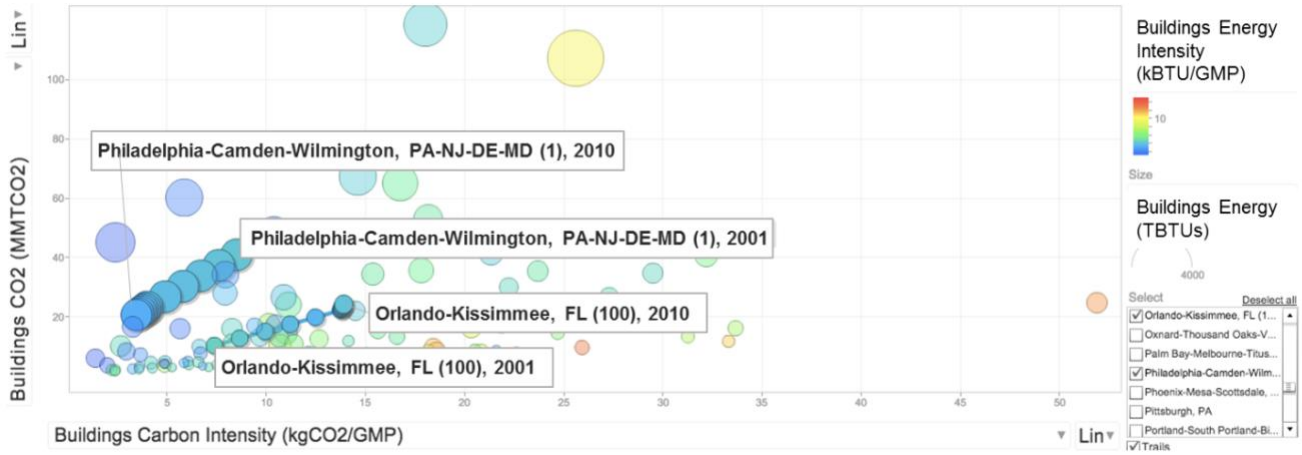
- L.A. Brown, M.A. Brown, and C.S. Craig (1981). "Innovation Diffusion and Entrepreneurial Activity in a Spatial Context: Conceptual Models and Related Case Studies." In Research in Marketing: A Research Annual, 4: 69-115.

Conference Proceedings (52)

- Brown, Marilyn A., Erik Johnson, Dan Matisoff, Ben Staver, Ross Beppler, and Chris Blackburn. 2016. "Impacts of Solar Power on Electricity Rates and Bills," *Proceedings of the 2016 ACEEE Summer Study on Energy Efficiency in Buildings*, Pacific Grove, CA, (Washington, DC: American Council for an Energy-Efficient Economy), pp. A-1 – A-13.

- Brown, Marilyn A., and Matt Cox. 2015. "Progress in Energy and Carbon Management in Large U.S. Metropolitan Areas, Energy Procedia 75, 2957 – 2962, The 7th International Conference on Applied Energy, Abu Dhabi, https://reginnovations.org/key-scientific-articles/progress-energy-carbon-management-in-large-u-s-metropolitan-areas/

Figure 2: Metros with the Least (Orlando) and Most (Philadelphia) Improved Buildings Carbon Footprints



- Smith, Alexander M. and Marilyn A. Brown. 2014. "Policy Considerations for Adapting Power Systems to Climate Change." *Proceedings of the Energy Policy Research Conference,* San Francisco, CA.

- Cox, Matt and Marilyn Brown. 2014. "Sustaining the City: Trends in Energy and Carbon Management in Large US Metros," *Proceedings of the* American Council for an Energy Efficient Economy (*ACEEE) Summer Study on Energy Efficiency in Buildings,* Pacific Grove, CA.

- Sun, Xiaojing, Matt Cox, and Marilyn A. Brown. 2014. "Energy Benchmarking of Commercial Buildings: A Low-Cost Pathway toward Energy Efficiency," *Proceedings of the* American Council for an Energy Efficient Economy (*ACEEE) Summer Study on Energy Efficiency in Buildings,* Pacific Grove, CA.

- Brown, Marilyn A., Matt Cox, Ben Staver, and Paul Baer. 2014. "Climate Change and Energy Demand in Buildings," *Proceedings of the* American Council for an Energy Efficient Economy (*ACEEE) Summer Study on Energy Efficiency in Buildings,* Pacific Grove, CA, pp. 3-26 to 3-38, http://aceee.org/files/proceedings/2014/data/papers/3-736.pdf

- Kim, Gyungwon, Paul Baer and Marilyn A. Brown. 2013. "The Statewide Job Generation Impacts of Expanding Industrial CHP," *Proceedings of the* American Council for an Energy Efficient Economy (*ACEEE) Summer Study on Energy Efficiency in Industry*, July 23-26, Niagara Falls, NY, pp. 2-1 to 2-16, http://aceee.org/files/proceedings/2013/data/papers/2_182.pdf

- Brown, Marilyn A., Matt Cox, and Xiaojing Sun. 2012. "Modeling the Impact of a Carbon Tax on the Commercial Buildings Sector," *Proceedings of the* American Council for an Energy Efficient Economy (*ACEEE) Summer Study on Energy Efficiency in Buildings, Pacific Grove, CA,* pp. 8-27 - 8-39. http://aceee.org/files/proceedings/2012/data/papers/0193-000262.pdf

- Jackson, Roderick K., Brown, Marilyn A., and Matt Cox. 2011. "Policy Analysis of Incentives to Encourage Adoption of the Superior Energy Performance Program," *Proceedings of the ACEEE Summer Study on Energy Efficiency in Industry*, July 24, Niagara Falls, NY, pp. 4-90 – 4-101.

- Benjamin Deitchman, Marilyn Brown, and Paul Baer. 2011. "Green Jobs from Industrial Energy Efficiency," *Proceedings of the* American Council for an Energy Efficient Economy (*ACEEE) Summer Study on Energy Efficiency in Industry*, July 23, Niagara Falls, NY, pp. 6-27 – 6-38.

- Brown, Marilyn A., Roderick Jackson, and Matt Cox. 2011. "Expanding the Pool of Federal Policy Options to Promote Industrial Energy Efficiency," *Proceedings of the ACEEE Summer Study on Energy Efficiency in Industry*, July 24, Niagara Falls, NY, pp. I-24 to I-35, http://aceee.org/files/proceedings/2011/data/papers/0085-000016.pdf.

- Jackson Roderick K., Brown, Marilyn A., and Matt Cox. 2011. "Policy Analysis of Incentives to Encourage Adoption of the Superior Energy Performance Program," *Proceedings of the ACEEE Summer Study on Energy Efficiency in Industry*, July 24, Niagara Falls, NY, pp. 4-90 – 4-101.

- Cox, Matt, Marilyn Brown and Roderick Jackson. 2011. "Regulatory Reform to Promote Clean Energy: The Potential of Output-Based Emissions Standards," *Proceedings of the ACEEE Summer Study on Energy Efficiency in Industry*, July 24, Niagara Falls, NY, pp. I-57 – I-67.

- Minne, E. A.; Crittenden, J. C.; Pandit, A.; Jeong H.; James, J.; Lu, Z.; Xu, M.; French, S.; Subrahmanyam, M.; Noonan, D.; Chiang L.; Brown, M. A.; Wang, J.; Desroches, R.; Bras, B.; Yen, J.; Begovic, M.; Kim, I.; Li, K.; Rao, P.; Water, energy, land use, transportation and socioeconomic nexus: a blueprint for more sustainable urban systems. *Proceedings of 2011 IEEE International Symposium on Sustainable Systems and Technology (ISSST)*, Chicago, IL, 2011.

- Brown, Marilyn A., Jess Chandler, and Melissa V. Lapsa. 2010. "Policy Options Targeting Decision Levers: An Approach for Shrinking the Residential Energy-Efficiency Gap," in *Proceedings of the ACEEE Summer Study on Energy Efficiency in Buildings, August 17, 2010, Pacific Grove, CA,* pp. 8-30–8-40. *https://cepl.gatech.edu/sites/default/files/attachments/ACEEE_DecisionLevers_1.pdf*

- J. A. (Skip) Laitner and Marilyn A. Brown. 2005. "Emerging Industrial Innovations to Create New Energy Efficient Technologies," *Proceedings of the Summer Study on Energy Efficiency in Industry,* American Council for an Energy-Efficient Economy, *4-71 – 4-83*. http://www.aceee.org/files/proceedings/2005/data/papers/SS05_Panel04_Paper07.pdf.

- Brown, Marilyn A., K. Dempsey and M. MacDonald. 2004. "Building to LEED at a Federal Facility – Case Study of a Research Office Building," in *Proceedings of the 2004 World Energy Engineering Congress,* 2004, Chapter 80.

- Brown, Marilyn A. and J. Briskin. 2002. "Summary of Panel 9: Environment and Policy", *ACEEE Summer Study on Energy Efficiency in Buildings*, Volume 9, pp. 2-5.

- "Improving the Methods used to Evaluate Voluntary Energy-Efficiency Programs," with M. Schweitzer, *Proceedings of the 2001 International Energy Program Evaluation Conference*, August, pp. 5-16, 2001, https://library.cee1.org/content/improving-method-used-evaluate-voluntary-energy-efficiency-programs.

- "Residential, Commercial, and Institutional Buildings Sector," with J. Millhone, et al., *Methodological and Technological Issues in Technology Transfer*, Intergovernmental Panel on Climate Change, pp. 183-199, 2000.

- "Scenarios of U.S. Carbon Reductions by 2010," with E. Petersen, J. Romm, and M. Levine, *Proceedings of the 17th annual meeting of the World Energy Congress,* Houston, TX, September 14-18, 1998, Session 3.4.

- "Evaluating the Economic, Energy, and Environmental Impacts of a Technology Commercialization Program in *Proceeding of the 1997 International Energy Program Evaluation Conference,* Madison, WI: Omni Press, 1997, pp. 255-265.

- "Energy-Efficient Buildings: Does the Marketplace Work?" in *Proceeding of the Twenty-Fourth Annual Illinois Energy Conference,* Chicago, Illinois: University of Illinois Press, 1997, pp. 233-255.

- "The Energy-Related Inventions Program: Evaluation Challenges and Solutions," in *Technology Transfer: A Conference on Measurement and Evaluation,* New York, New York: The Engineering Foundation, 1997, 171-185.

- "International Energy Efficiency and Renewable Energy Resources on the Internet," with R. D. Meyer, *Proceedings of the Energy and Environmental Management Conference*, September, 1996.

- "Actual Vs. Anticipated Savings from DSM Programs: An Assessment of the California Experience," with P. Mihlmester, *Proceedings of the 1995 International Energy Program Evaluation Conference*, August, pp. 295-301, 1995.

- Brown, M.A. , J. A. Shaver, and M. K. Voss. 1995. "The International Energy Agency's Centre for the Analysis and Dissemination of Demonstrated Energy Technologies," *Proceedings of the ACEEE Industrial Technologies Summer Study*, 1995.

- Brown, Marilyn A., Mark A. Beyer, Joel Eisenberg, Edward J. Lapsa, and Meg Power. 1995. "Utility Investments in Low-Income Energy-Efficiency Programs," *Proceedings: Delivering Customer Value (7th National Demand-Side Management Conference)*, EPRI TR-105196, June, pp. 235-239. http://weatherization.ornl.gov/wp-content/uploads/pdf/1991_1995/ORNL_CON-379.pdf

- Brown, Marilyn A. and Philip E. Mihlmester. 1995. "What Has Demand-Side Management Achieved in California?" *Proceedings: Delivering Customer Value (7th National Demand-Side Management Conference)*,

EPRI TR-105196, June, pp. 229-234, 1995.
https://digital.library.unt.edu/ark:/67531/metadc702548/m2/1/high_res_d/67784.pdf

- Brown, Marilyn A. and Linda G. Berry. 1994. "Key Findings of the National Weatherization Evaluation," *Weatherization and Leveraging: Compendium of Papers from Experts in the Low-Income Energy Arena*, Silver Spring, MD: National Low Income Energy Consortium, pp. 15-29, 1994. CONF-9406309-1. **https://www.osti.gov/servlets/purl/325727**

- Brown, Marilyn A. and K. J. Oswald (ed.). 1994. "Program Design," American Council for an Energy-Efficient Economy (ACEEE) 1994 Summer Study on Energy Efficiency in Buildings, *Proceedings,* Volume 10.

- Berry, Linda G. and Marilyn A. Brown. 1994. "Energy-Efficiency Improvements and Remaining Opportunities in the DOE Low-Income Weatherization Program," American Council for an Energy-Efficient Economy (ACEEE) 1994 Summer Study on Energy Efficiency in Buildings, *Proceedings,* pp. 6.19-6.28.

- "DOE's Weatherization Assistance Program: National Impacts and Regional Variations," with L. G. Berry, R. A. Balzer, *Proceedings of the 1993 International Energy Program Evaluation Conference*, August, pp. 693-702, 1993.

- "Spinoffs from R&D Investments," with C. R. Wilson, *Proceedings of the 17th Annual Conference of the Technology Transfer Society,* June, 1992.

- "The Reliability of Residential Energy Conservation Resources," with D. L. White, American Council for an Energy-Efficient Economy (ACEEE) 1992 Summer Study on Energy Efficiency in Buildings, *Conference Proceedings,* pp. 7.267-7.275, 1992.

- "A Status Report on the National Weatherization Evaluation," with D. A. Beschen, American Council for an Energy-Efficient Economy (ACEEE) 1992 Summer Study on Energy Efficiency in Buildings, *Conference Proceedings,* pp. 7.27-7.30, 1992.

- "Measuring the Effects of Conservation Program Special Services: Client Education, Fuel Assistance, and Other Indirect Outcomes," with D. L. White, A. P. Tolson, *Proceedings of the 1991 Socioeconomic Energy Research and Analysis Conference*, pp. 306-320, 1993.

- "Promoting Energy-Efficient Home Construction: Alternative Policy Instruments," with P. Brandis, B. Cody, P. Degens, *Proceedings of the Energy Program Evaluation Conference*, August, pp. 547-554, 1991.

- "Codes Vs. Marketing: How Far Have They Advanced Home Construction Practices in the Pacific Northwest," with J. O. Kolb, and P. Brandis, *Proceedings of the Fifth National Demand-Side Management Conference* (Palo Alto, CA: Electric Power Research Institute), July, pp. 92-97, 1991.

- "Commercializing Government-Sponsored Computer Software" with R. K. Goel, in *Advances in the Implementation and Impacts of Computer Systems*, M. Fleisher and J. A. Morell (eds.), JAI Press, Greenwich, CT, pp. 263-275, 1991.

- "Innovators and Opinion Leaders in Demand-Side Management," with D. L. White, W. C. Koehler, J. Hayes, *Proceedings of the ACEEE 1990 Summer Study on Energy Efficiency in Buildings*, Volume 2, pp. 2.7-2.16, August 1990.

- "Evaluating the Impacts of Model Conservation Standards on Single-Family Construction Practices in the Northwest," with P. Brandis, B. Cody, M. H. Haeri, *Proceedings of the ACEEE 1990 Summer Study on Energy*

Efficiency in Buildings, Volume 2, pp. 6.15-6.24, August 1990.

- "Promoting the Commercialization of Energy Innovations: An Evaluation of the Energy-Related Inventions Program," *Proceedings of the 1989 Energy Program Evaluation Conference* (August), pp. 33-38, 1989.
- "The Commercialization Process and Future Energy Options," with S. A. Snell, *Proceedings of the International Symposium on Energy Options for the Year 2000,* Volume 2 (Newark, DE: Center for Energy and Urban Policy Research, University of Delaware) September, pp. 225-234, 1988.
- "The Commercialization of Technological Innovations: Spatial and Other Correlates of Success," with S. A. Snell, and N. G. Buss, *Papers and Proceedings of Applied Geography Conferences*, 10: 98-104, 1987.
- Brown, Marilyn A., J. A. Morell, S. A. Snell, and C. R. Kerley. 1987. "Impact of the Energy-Related Inventions Program on the National Economy," *Proceedings of the Technology Transfer Society's Annual Meeting*, Indianapolis, IN: Technology Transfer Society, pp. 280-290.
- Brown, Marilyn A. 1987. "Evaluation of a Shared Savings Approach: The Residential Energy Conservation Action Program," *Demand-Side Management Strategies in Transition*, (Palo Alto, CA: Electric Power Research Institute).
- T. J. Wilbanks, M. A. Brown, and G. Samuels. 1986. "Issues in Transferring U.S. Energy Technologies to Developing Nations," *Proceedings of the American Society of Mechanical Engineers Winter Annual Meeting*.
- Brown, Marilyn A. and Linda G. Berry. "Participation of the Elderly in Utility-Sponsored Residential Conservation Programs," *Proceedings from the ACEEE 1986 Summer Study on Energy Efficiency in Buildings* (Washington, DC: American Council for an Energy-Efficient Economy) Volume 5, pp. 5-19, 1986.
- Brown, Marilyn A. and Paul A. Rollinson. 1984. "The Residential Energy Consumption of Low-Income and Elderly Households: A Summary of Findings from Decatur, Illinois," American Council for an Energy-Efficient Economy (ACEEE), 1984 Summer Study on Energy Efficiency in Buildings, *Doing Better: Setting an Agenda for the Second Decade*, Volume H.
- Brown, Marilyn A. and Lawrence A. Brown. 1976. "The Diffusion of Bank Americard in a Rural Setting: Supply and Infrastructure Considerations," *Proceedings of the Association of American Geographers*, 9: 74-78.

Reports, Working Papers, and Industry Press (129)

- Brown, Marilyn A., Anmol Soni, Melissa V. Lapsa, and Katie Southworth. (2020). *Low-Income Energy Affordability: Conclusions from a Literature Review* (Oak Ridge, TN: Oak Ridge National Laboratory), ORNL/TM-2019/1150. DOI: 10.2172/1607178, https://info.ornl.gov/sites/publications/Files/Pub124723.pdf
- Lapsa, Melissa V., Marilyn A. Brown and Anmol Soni. (2020). *Annotated Bibliography of Literature Addressing Low-Income Energy Affordability in the United States* (Oak Ridge, TN: Oak Ridge National Laboratory), ORNL/TM-2019/1169. DOI: 10.2172/1607135 https://info.ornl.gov/sites/publications/Files/Pub125966.pdf
- Romero Lankao, Patricia and Wilson, Alana and Sperling, Joshua and Miller, Clark and Zimny-Schmitt, Daniel and Bettencourt, Luis and Wood, Eric and Young, Stanley and Muratori, Matteo and Arent, Doug and O'Malley, Mark and Sovacool, Benjamin K. and Brown, Marilyn A. and Southworth, Frank and Bazilian, Morgan and Gearhart, Chris and Beukes, Anni and Zünd, Daniel. (2019) Urban Electrification: Knowledge

Pathway Toward an Integrated Research and Development Agenda (August 20, 2019). Available at SSRN: https://ssrn.com/abstract=3440283

- Brown, M.A., Blair Beasley, Fikret Atalay, Kim M. Cobb, Puneet Dwivedi, Jeffrey Hubbs, David M. Iwaniec, Sudhagar Mani, Daniel Matisoff, Jacqueline E. Mohan, Jeffrey Mullen, Michael Oxman, Daniel Rochberg, Michael Rodgers, Marshall Shepherd, Richard Simmons, Laura Taylor, L. Beril Toktay. (2021) Translating a Global Emissions Reduction Framework for Sub-National Climate Action: A Case Study from the State of Georgia, Georgia Institute of Technology Working Paper.

- Electricity Advisory Committee (EAC) 2018. *Enhancing Grid Resilience with integrated Storage from Electricity Vehicles* U.S. Department of Energy, June 28 https://www.energy.gov/sites/prod/files/2018/06/f53/EAC_Enhancing%20Grid%20Resilience%20with%20Integrated%20Storage%20from%20EVs%20%28June%202018%29.pdf

- Brown, Marilyn A., Alice Favero, Valerie Thomas, and Aline Banboukian. 2018. "The Economics of Four Virginia Biomass Plants." School of Public Policy, Georgia Institute of Technology, Working Paper 93, https://cepl.gatech.edu/sites/default/files/attachments/Biomass Economics-Working Paper %2393.pdf

- Brown, Marilyn A. and Benjamin K. Sovacool. 2017. "Theorizing the Behavioral Dimensions of Energy Consumption." School of Public Policy, Georgia Institute of Technology, Working Paper 92 https://people.iac.gatech.edu/files/publication/5252_Theorizing%20the%20Behavioral%20Dimension%20of%20Energy%20Consumption.pdf

- Antes, Matthew, Anna Mosby, Melissa Lapsa, Charlotte Franchuk, Marilyn Brown. 2017. Workshops on R&D Opportunities in Clean Energy Innovation, Oak Ridge National Laboratory, ORNL/SPR-2017/407, http://mission-innovation.net/wp-content/uploads/2017/12/MI-Workshop-Guide-2017-October-Final.pdf

- National Academies of Sciences, Engineering, and Medicine. 2016. *Pathways to Urban Sustainability: Challenges and Opportunities for the United States*. Washington, DC: The National Academies Press. https://doi.org/10.17226/23551.

- Brown, Marilyn A., Gyungwon Kim, and Alexander M. Smith. 2016. *The Clean Power Plan and Beyond*, School of Public Policy, Georgia Institute of Technology, Working Paper #89, https://cepl.gatech.edu/sites/default/files/attachments/NEMS_CPP_Paper_06-24-2016.pdf#

- Brown, Marilyn A., Daniel D'Arcy, Melissa Lapsa, Isha Sharma, Yufei Li (2017) *Solid Waste from the Operation and Decommissioning of Power Plants*, Oak Ridge National Laboratory, ORNL/SPR-2016/774, http://info.ornl.gov/sites/publications/files/Pub60563.pdf

- Massetti, Emanuele, Marilyn Brown, Melissa Lapsa, Isha Sharma, James Bradbury, Colin Cunliff, Yufei Li. *Environmental Quality and the U.S. Power Sector: Air Quality, Water Quality, Land Use and Environmental Justice,* Oak Ridge National Laboratory, ORNL/SPR-2016/772 (2017), http://info.ornl.gov/sites/publications/files/Pub60561.pdf

- Wang, L., A. Favero, M.A. Brown. 2016. "An Economic Assessment of Low-Carbon Investment Flows in the U.S. Power Sector," FEEM Working Paper (77.2016).

- Electricity Advisory Committee (EAC). 2015 Recommendations on Smart Grid Research and Development Needs (March 27), https://www.energy.gov/sites/prod/files/2015/04/f21/EAC%20Recommendations%20on%20Smart%20Grid%20Research%20and%20Development%20Needs.pdf

- Electricity Advisory Committee (EAC). 2015. *Grid Modernization: ARRA Accomplishments and Recommendations for Moving Forward.* November, https://energy.gov/sites/prod/files/2015/11/f27/EAC%20Grid%20Modernization%20ARRA%20Accomplishments%20and%20Recommendations_0.pdf.

- Brown, Marilyn A., Gyungwon Kim, and Alexander M. Smith. 2015. Low-Carbon Electricity Pathways for the U.S. and the South: An Assessment of Costs and Options, School of Public Policy, Georgia Institute of Technology, Working Paper #86, https://spp.gatech.edu/publications/pubFile/1439

- Brown, Marilyn A., Yu Wang, and Xiaojing Sun. 2015. "Cool buildings: Bundled policies to promote super-efficient space conditioning", School of Public Policy, Georgia Institute of Technology, Working Paper #87, http://www.ourenergypolicy.org/wp-content/uploads/2015/07/Cool-Buildings-06-01-15.pdf.

- Brown, Marilyn A., Benjamin Staver, Alexander M. Smith, and John Sibley. 2014. "Business Models for Utilities of the Future: Emerging Trends in the Southeast," School of Public Policy, Georgia Institute of Technology, Working Paper #84, https://spp.gatech.edu/publications/pubFile/528.

- Brown, Marilyn A., Miroslav Begovic, John Crittenden, Samuel Graham, Erik Johnson, and Valerie Thomas. 2014. "The State of Electric Power in the South," School of Public Policy, Georgia Institute of Technology, Working Paper #80. https://people.iac.gatech.edu/files/publication/527_FEPS_White%20Paper_092314_0.pdf

- Lucon, Oswaldo and Diana Urge-Vorsatz (eds.). 2014. *Mitigation of Climate Change, Chapter 9: Buildings.* Intergovernmental Panel on Climate Change. Ottmar Edenhofer, Ramon Madruga, and Youba Sokona (eds). Marilyn Brown, Review Editor of Chapter 9.

- Brown, Marilyn A., Matt Cox, and Paul Baer. 2014. "Modeling Climate-Driven Changes in U.S. Energy Demand: Conclusions from a Review of the Literature," SPP Working Paper #78

- Baer, Paul, Marilyn A. Brown, and Gyungwon Kim. 2013. "The Job Generation Impacts of Expanding Industrial Cogeneration," SPP Working Paper #76 https://people.iac.gatech.edu/files/publication/422_WP76.pdf

- Brown, Marilyn A. and Yu Wang. 2013. *Estimating the Energy-Efficiency Potential in the Eastern Interconnection* (Oak Ridge, TN: Oak Ridge National Laboratory), ORNL/TM-2012/568, http://info.ornl.gov/sites/publications/Files/Pub40408.pdf.

- Cox, Matt, Marilyn A. Brown, and Xiaojing Sun. 2012. "Making Buildings Part of the Climate Solution by Overcoming Information Gaps through Benchmarking," Georgia Institute of Technology, School of Public Policy Working Paper #72 (https://people.iac.gatech.edu/files/publication/419_wp72.pdf).

- Sun, Xiaojing, Marilyn A. Brown, Roderick Jackson, and Matt Cox. 2012. "Making Buildings Part of the Climate Solution by Enforcing Aggressive Commercial Building Codes," Georgia Institute of Technology, School of Public Policy Working Paper #71 (https://people.iac.gatech.edu/files/publication/418_wp71.pdf).

- Brown, Marilyn A., Matt Cox, and Xiaojing Sun. 2012. "Making Buildings Part of the Climate Solution by Pricing Carbon Efficiently," Georgia Institute of Technology, School of Public Policy Working Paper #69 (https://people.iac.gatech.edu/files/publication/416_wp69.pdf).

- Brown, Marilyn A., Paul Baer, Matt Cox, Yeong Jae Kim. 2012. Evaluating the Risks of Alternative Energy Policies: A Case Study of Industrial Energy Efficiency, Georgia Institute of Technology, School of Public Policy Working Paper #68, September (https://people.iac.gatech.edu/files/publication/415_wp68.pdf)

- Brown, Marilyn A.*, Matt Cox, and Paul Baer. 2012. "Reviving Manufacturing with a Federal Cogeneration Policy," Georgia Institute of Technology, School of Public Policy Working Paper https://people.iac.gatech.edu/files/publication/414_wp67.pdf

- Brown, Marilyn A., Matt Cox, and Xiaojing Sun. 2012. "Modeling the Impact of a Carbon Tax on the Commercial Buildings Sector," Georgia Institute of Technology, School of Public Policy Working Paper.

- Brown, Marilyn A. and Shan Zhou. 2012 and 2014 (2nd edition). "Sustainable Smart Grids: Emergence of a Policy Framework," *Encyclopedia of Sustainability Science and Technology* (Robert A. Meyers, ed.), Springer Science+Business Media, LLC.

- Brown, Marilyn A., Etan Gumerman, Xiaojing Sun, Gyungwon Kim, and Kenneth Sercy. 2011. *Myths and Facts about Clean Electricity in the U.S. South,* Georgia Institute of Technology School of Public Policy Working Paper #64, September (https://people.iac.gatech.edu/files/publication/411_wp64.pdf).

- Brown, Marilyn A., Roderick Jackson, Matt Cox, Rodrigo Cortes, Benjamin Deitchman, and Melissa Lapsa. 2011. *Making Industry Part of the Climate Solution: Policy Options to Promote Energy Efficiency.* Oak Ridge National Laboratory, ORNL/TM-2010/78, May, 275 pages. http://info.ornl.gov/sites/publications/Files/Pub23821.pdf.

- National Research Council. 2011. *Modeling the Economics of greenhouse Gas Mitigation: Summary of a Workshop* (Washington, DC: National Academies Press). (Workshop Co-organizer). https://doi.org/10.17226/13023

- Brown, Marilyn A., Benjamin K. Sovacool, Yu Wang and Anthony Louis D'Agostino. 2011. *Energy Security Dimensions and Trends in Industrialized Countries,* Georgia Institute of Technology, School of Public Policy Working Paper #63, May.

- Carnesale, A., Chameides, W., Boesch, D. F., Brown, M.A., et. al. National Academy of Sciences. 2011. *America's Climate Choices* (Washington, DC: National Academies Press). https://www.nap.edu/resource/12781/ACC-final-brief.pdf (Committee Member)

- National Academy of Sciences. 2010. *Real Prospects for Energy Efficiency* (Washington, DC: National Academies Press). (Committee Member and leader of Chapter 4: "Energy Efficiency in Industry") https://www.nap.edu/catalog/12621/real-prospects-for-energy-efficiency-in-the-united-states

- National Academy of Sciences. 2010. *Limiting the Magnitude of Future Climate Change* (Washington, DC: National Academies Press). (Panel co-chair) https://www.nap.edu/catalog/12785/limiting-the-magnitude-of-future-climate-change

- National Academy of Sciences. 2009. *Assessing Economic Impacts of Greenhouse Gas Mitigation: Summary of a Workshop* (Washington, DC: National Academies Press). (Workshop Planning Committee) https://www.nap.edu/catalog/12487/assessing-economic-impacts-of-greenhouse-gas-mitigation-summary-of-a

- National Academy of Sciences. 2009. *Real Prospects for Energy Efficiency in the United States* (Washington, DC: National Academies Press), December (lead author of Chapter 4: Industrial Energy Efficiency).

- Brown, Marilyn A., Jess Chandler, Melissa V. Lapsa, and Moonis Ally. 2009. Making Homes Part of the Climate Solution: Policy Options to Promote Energy Efficiency. Oak Ridge National Laboratory, ORNL/TM-20009/104, June, 120 pages. https://www.osti.gov/scitech/biblio/986382

- Sovacool, Benjamin K. and Marilyn A. Brown. 2009. *Competing Dimensions of Energy Security: An International Perspective,* Georgia Institute of Technology School of Public Policy Working Paper #45, January (https://people.iac.gatech.edu/files/publication/394_wp45.pdf).

- Brown, Marilyn A., John A. Laitner, Sharon Chandler, Elizabeth D. Kelly, Shruti Vaidyanathan, Vanessa McKinney, Cecelia Logan, and Therese Langer. 2009. *Energy Efficiency in Appalachia,* Prepared for the Appalachian Regional Commission, ~200 pp. http://www.arc.gov/research/researchreportdetails.asp?REPORT_ID=70

- Bard, Allen, Marilyn Brown, Mike Corradini, and Jeremy Mark. (2014) *What You Need to Know About Energy,* National Academies, Board on Energy and Environmental Systems. http://www.nap.edu/catalog/12204.html

- Youtie, Jan, Bill Drummond, Marilyn Brown, and Bill Meffert. 2008. *Energy and Environmental Workforce Educational Needs: Supply and Demand in Georgia* (prepared for the Office of Economic development, Georgia Board of Regents, University Systems of Georgia), September. http://www.usg.edu/assets/economic_development/documents/energyenvironmental_workforce.pdf

- Brown, Marilyn A, Jess Chandler, Melissa V. Lapsa, and Benjamin K. Sovacool. (2008) *Carbon lock-in: barriers to the deployment of climate change mitigation technologies.* Nova Science Publishers, Incorporated, pp. 1-166. Oak Ridge National Laboratory Technical Report ISBN 9781617615580, ORNL/TM-2007/124, https://www.osti.gov/biblio/1424507

- Brown, M.A., et al. 2007. *Energy Policy Recommendations to the President and the 110th Congress,* The National Commission on Energy Policy, April. https://bipartisanpolicy.org/wp-content/uploads/sites/default/files/Energy%20Policy%20Recommendations%20to%20the%20President%20and%20the%20110th%20Congress.pdf

- Brown, M.A., et al. 2004. *Siting Critical Energy Infrastructure: An Overview of Needs and Challenges,* The National Commission on Energy Policy, June.

- Marilyn A. Brown, Matt Antes, Charlotte Franchuk, Burton H. Koske, Gordon Michaels, Joan Pellegrino. (2006) *Results of a Technical Review of the U.S. Climate Change,* ORNL-6976. https://info.ornl.gov/sites/publications/files/Pub2204.pdf

- Papay, L.T., Arvizu, D. E., Beyea, J., Bradford, P., Brown, M. A., et. al., National Research Council. 2006. *Alternatives to the Indian Point Energy Center for Meeting New York Electric Power Needs.* Washington, DC: The National Academies Press. https://doi.org/10.17226/11666. (https://www.nap.edu/catalog/11666/alternatives-to-the-indian-point-energy-center-for-meeting-new-york-electric-power-needs).

- Brown, Marilyn, Frank Southworth and Therese K. Stovall. 2005. *Towards a Climate-Friendly Built Environment,* Pew Center on Global Climate Change, https://www.c2es.org/document/towards-a-climate-friendly-built-environment/.

- Bjornstad, David J. and Marilyn A. Brown. 2004. *A Market Failures Framework for Defining the Government's Role in Energy Efficiency*, with Joint Institute for Energy and Environment Report (http://web.utk.edu/~isse2006/pdf/jieepubs/2004_02marketfail.pdf)

- Brown, M.A., et al. 2004. *Ending the Energy Stalemate: A Bipartisan Strategy to Meet America's Energy Challenges,* The National Commission on Energy Policy.

- Brown, M.A., M.D. Levine and W. Short, 2000. *Scenarios for a Clean Energy Future,* Oak Ridge National Laboratory, ORNL/CON-476, https://www.researchgate.net/publication/222650261_Scenarios_for_a_clean_energy_future

- DOE. 2000. *Clean Energy Partnerships: A Decade of Success.* DOE/EE-0213. Washington, DC: U.S.Department.

- Denson, C. D., Lippmann, M., Brown, M. A., and Seeker, W. R., U. S. Environmental Protection Agency. 2000. *Review of the Science to Achieve Results (STAR) Program,* EPA-SAB-EC-00-008. Washington, DC: U. S. Environmental Protection Agency.

- Berry, L. G., Brown, M. A., and Kinney, L. F. (1997). Oak Ridge National Laboratory. *Progress Report of the National Weatherization Assistance Program.* ORNL/CON-450. https://www.efis.psc.mo.gov/mpsc/commoncomponents/viewdocument.asp?DocId=3857596

- National Laboratory Directors. 1997. "Technology Opportunities to Reduce U.S. Greenhouse Gas Emissions"

- Brown, Marilyn A. and Mark D. Levine. 1997. *Scenarios of U.S. Carbon Reductions: The Potential Impact of Energy-Efficient and Low-Carbon Technologies.* Oak Ridge National Laboratory, ORNL/CON-444, https://digital.library.unt.edu/ark:/67531/metadc694703/m2/1/high_res_d/563139.pdf.

- Brown, Marilyn A., R. B. Braid, C. R. Wilson, C. A. Franchuk, and C. G. Rizy. 1996. *The Energy-Related Inventions Program: Continuing Benefits to the Inventor Community.* Oak Ridge National Laboratory. ORNL/CON-429.

- Brown, Marilyn A., et al. 1996. *Policies and Measures for Reducing Energy Related Greenhouse Gas Emissions: Lessons from Recent Literature*. U.S. Department of Energy, Office of Policy and International Affairs, Washington, DC, July: pp. 3-1 to 3-51, DOE/PO-0047.

- Brown, Marilyn, Kelley, Julia, and Voss, Melissa. 1996. *Promoting the International Deployment of Greenhouse Gas Technologies*. Inforum Newsletter, DOE Office of Scientific and Technical Information: 1-3.

- Electric Power Research Institute. 1996. *Persistence of Demand-Side Management Impacts: Methods, Applications, and Selected Findings.* TR-106193. Palo Alto, California.

- Brown, Marilyn, Kelley, Julia, and Voss, Melissa. 1995. *Promoting the International Deployment of Greenhouse Gas Technologies.* ORNL Review 28(2/3): 40-50.

- *Science and Technology for a Sustainable Energy Future: Accomplishments of the Energy Efficiency and Renewable Energy Program at Oak Ridge National Laboratory,* with K. H. Vaughan, Oak Ridge National Laboratory, ORNL/CON-410, March 1995.

- *Measuring Persistence: A Literature Review Focusing on Methodological Issues*, with A. K. Wolfe, D. Trumble, Oak Ridge National Laboratory, ORNL/CON-401, March 1995.

- *Summary of California DSM Impact Evaluation Studies,* with P. Mihlmester, Oak Ridge National Laboratory, ORNL/CON-401, November 1994.

- Brown, Marilyn A., et al., Weatherization Works: Final Report of the National Weatherization Evaluation, ORNL/CON-395, Oak Ridge National Laboratory, Oak Ridge, Tennessee, September 1994. http://weatherization.ornl.gov/past_evaluation_1989wap.shtml

- Brown, M.A., C. R. Wilson, C. A. Franchuk, S.M. Cohn, and D. Jones. *1994. The Economic, Energy, and Environmental Impacts of DOE's Energy-Related Inventions Program*, Oak Ridge National Laboratory, ORNL/CON-381, July 1994. **https://www.osti.gov/servlets/purl/10175601**

- *Hill, L.J. and M. A. Brown. 1994. Standard Practice: Estimating the Cost-Effectiveness of Coordinated DSM Programs,* Oak Ridge National Laboratory, ORNL/CON-390, December. **https://www.osti.gov/biblio/29398**

- Brown, M., Beyer, M., Eisenberg, J., Lapsa, E., Power, M., Utility Investments in Low-Income Energy-Efficiency Programs, ORNL-CON-379, Oak Ridge National Laboratory, Oak Ridge, Tennessee, September 1994. http://weatherization.ornl.gov/wp-content/uploads/pdf/1991_1995/ORNL_CON-379.pdf

- Brown, M., Hill, L., Low-Income DSM Programs: Methodological Approach to Determining the Cost-Effectiveness of Coordinated Partnerships, ORNL/CON-375, Oak Ridge National Laboratory, Oak Ridge, Tennessee, May 1994. http://weatherization.ornl.gov/wp-content/uploads/pdf/1991_1995/ORNL_CON-375.pdf

- *Patterns of Impact in the Weatherization Assistance Program: A Closer Look,* with L. G. Berry, Oak Ridge National Laboratory, ORNL/CON-331, June 1994, *http://weatherization.ornl.gov/past_evaluation_1989wap.shtml*

- *Progress in Residential Retrofit,* with A. Meier, B. Pon, and L. G. Berry, Lawrence Berkeley National Laboratory, LBL-34172, December 1993.

- Brown, Marilyn A., et al., Weatherization Works: Final Report of the National Weatherization Evaluation, ORNL/CON-395, Oak Ridge National Laboratory, Oak Ridge, Tennessee, September 1994. *http://weatherization.ornl.gov/past_evaluation_1989wap.shtml*

- *Process Evaluation of the Regional Biomass Energy Program,* with C. R. Wilson, R. D. Perlack, Oak Ridge National Laboratory, ORNL/CON-366, September 1993, *http://weatherization.ornl.gov/past_evaluation_1989wap.shtml*

- *A Comparison Group Analysis of DOE's Energy-Related Inventions Program,* with T. R. Curlee, S. R. Elliot, C. A. Franchuk, Oak Ridge National Laboratory, ORNL/CON-365, June 1993, *http://weatherization.ornl.gov/past_evaluation_1989wap.shtml*

- Brown, M., Berry, L., Kinney, L., Kolb, J., Wilson, T., White, D., Keys to Success: Ten Case Studies of Effective Weatherization Programs, ORNL/CON-328, Oak Ridge National Laboratory, Oak Ridge, Tennessee, November 1993. *http://weatherization.ornl.gov/past_evaluation_1989wap.shtml*

- Brown, M., Berry, L., Balzer, R., Faby, E., National Impacts of the Weatherization Assistance Program in Single-Family Dwellings, ORNL/CON-326, Oak Ridge National Laboratory, Oak Ridge, Tennessee, May 1993. *http://weatherization.ornl.gov/past_evaluation_1989wap.shtml*

- Brown, M.A. and D.L. White. 1992. *Evaluation of Bonneville's 1988 and 1989 Residential Weatherization Program: A Northwest Study of Program Dynamics,* with D. L. White, Oak Ridge National Laboratory, ORNL/CON-323, December. https://doi.org/10.2172/6777218

- Power, M., Eisenberg, J., Michels, E., Witherspoon, M., Brown, M., Scope of the Weatherization Assistance Program: The Weatherized Population and the Resource Base, ORNL/CON-325, Oak Ridge National Laboratory, Oak Ridge, Tennessee, May 1992. https://weatherization.ornl.gov/wp-content/uploads/pdf/WAP1989/ORNL_SUB92-SK904-v2.pdf

- Brown, M.A. and D. Beschen. 1992. *A Status Report on the National Weatherization Evaluation.* CONF-920828. https://www.osti.gov/servlets/purl/10159234

- Mihlmester, P., Koehler, W., Beyer, M., Brown, M., and Beschen, D., *Characterization of the Weatherization Assistance Program Network,* ORNL/CON-324, Oak Ridge National Laboratory, Oak Ridge, Tennessee, February 1992. http://weatherization.ornl.gov/wp-content/uploads/pdf/1991_1995/ORNL_CON-324.pdf

- *Experimental Plan for the Fuel Oil Study,* with M. Ternes, W. Levins, Oak Ridge National Laboratory, ORNL/TM-11668/V2, October 1991.

- *Experimental Plan for the Single-Family Study,* with L. G. Berry, T. Wright, D. L. White, Oak Ridge National Laboratory, ORNL/TM-11668/V3, September 1991.

- White, D.L. and M. A. Brown. 1990. *Electricity Savings Among Participants Three Years after Weatherization in Bonneville's 1986 Residential Weatherization Program,* Oak Ridge National Laboratory, ORNL/CON-305, September 1990. https://www.osti.gov/servlets/purl/6454513

- *The Impact of Bonneville's Model Conservation Standards on the Energy Efficiency of New Home Construction,* with M. A. Brown, J. O. Kolb, D. Baylon, M. H. Haeri, D. L. White, Oak Ridge National Laboratory, ORNL/CON-310, August 1991.

- *Evaluation Plan for the Weatherization Assistance Program,* with D. A. Beschen, Oak Ridge National Laboratory, ORNL/TM-11668/V1, August 1991.

- *The Energy-Related Inventions Program: A Decade of Commercial Progress,* with C. R. Wilson, C. A. Franchuk, Oak Ridge National Laboratory, ORNL/CON-339, December 1991.

- *Energy Efficiency in Nonprofit Agencies: Creating Effective Program Models,* with B. Prindle, M. I. Scherr, D. L. White, Oak Ridge National Laboratory, ORNL/TM-11602, August 1990.

- *A Planning Framework for Transferring Building Energy Technologies,* with B. C. Farhar, B. L. Mohler, M. Wilde, F. H. Abel, Solar Energy Research Institute, SERI-TP-260-3729, July 1990.

- *The Energy-Related Inventions Program: Commercial Progress of Participants Through 1988,* with C. R. Wilson, Oak Ridge National Laboratory, ORNL/CON-301, May 1990.

- *Implementation and Enforcement of Bonneville's Model Conservation Standards Within Early Adopting Jurisdictions,* with S. M. Cohn, J. O. Kolb, Oak Ridge National Laboratory, ORNL/CON-296, February 1990.

- "Barriers to Improving Energy Efficiency," Chapter 5, with E. Hirst, in *Energy Efficiency: How Far Can We Go?* edited by Roger Carlsmith, et al., Oak Ridge, TN: Oak Ridge National Laboratory, ORNL/TM-11441, January 1990.

- *The Technology Transfer Process: Background for the U.S. National Energy Strategy,* with D. Deonigi, N. Moore, S. Smith, R. Watts, B. Noun, Pacific Northwest Laboratory, PNL-SA-17482, January 1990.

- M.A. Brown, S.M. Macey, and P. Sullivan. (1989) "Research, Development, and Demonstration Strategies," in *A Compendium of Options for Government Policy to Encourage Private Sector Responses to Potential Climate Change*, Report to the Congress of the United States, Washington, D.C. U. S. Department of Energy, Office of Environmental Analysis, DOE/EH-0102, October 1989.

- M.A. Brown and P. Weiss. (1989) "Comparing Building Energy Analysis Software" *Home Energy,* Vol. 6 (5): pp. 13-18 (September/October) 1989.

- *Electricity Savings One and Two Years After Weatherization: A Study of 1986 Participants in Bonneville's Residential Weatherization Program*, with M. Schweitzer, D. White, Oak Ridge, TN: Oak Ridge National Laboratory, ORNL/CON-289, August 1989.

- *Technology Adoption Strategy for the Existing Buildings Efficiency Research Program*, with P. E. Mihlmester, J. Gonos, L. Freeman, Oak Ridge, TN: Oak Ridge National Laboratory, ORNL/CON-286, June 1989.

- *Recent Publications of DOE's Office of Buildings and Community Systems*, with J. Hayes, Oak Ridge, TN: Oak Ridge National Laboratory, ORNL/CON-276, January 1989.

- *Commercializing Government-Sponsored Innovations: Lessons Learned from Twelve Successful Case Studies*, with L. G. Berry, R. K. Goel, Oak Ridge, TN: Oak Ridge National Laboratory, ORNL/CON-275, January 1989.

- *Technology Transfer for DOE's Office of Transportation Systems: Assessments and Strategies*, with S. A. Snell, A. M. Zerega, Oak Ridge, TN: Oak Ridge National Laboratory, ORNL/CON-244, April 1988.

- *Technology Transfer Strategies of the U.S. Department of Energy's Conservation Program*, Oak Ridge, TN: Oak Ridge National Laboratory, ORNL/CON-277, December 1988.

- *The Energy-Related Inventions Program: An Assessment of Recent Commercial Progress*, with S. A. Snell, Oak Ridge, TN: Oak Ridge National Laboratory, ORNL/CON-252, October 1988.

- *A New Technology Transfer Process for DOE's Residential and Commercial Conservation Program*, with R. Vories, D. L. White, S. Kirchen, Oak Ridge, TN: Oak Ridge National Laboratory, ORNL/M-529, September 1988.

- *Technical Accomplishments of DOE's Office of Transportation Systems*, with S. A. Snell, S. C. Davis, Oak Ridge, TN: Oak Ridge National Laboratory, ORNL/CON-267, September 1988.

- *Impact of the Hood River Conservation Project on Electricity Use for Residential Water Heating*, with D. L. White, S. Purucker, Oak Ridge, TN: Oak Ridge National Laboratory, ORNL/CON-238, August 1987.

- "Analysis of Technical Assistance Provided by the Department of Energy's Energy Management and Extension Division", with J. A. Morell, L. G. Berry, M. Hubbard, W. Friggle, unpublished manuscript (50

pages), April 1987.

- "Impact Analysis of a Residential Energy Conservation Shared Savings Program: The General Public Utilities Experience," with D. L. White, Oak Ridge, TN: Oak Ridge National Laboratory, ORNL/CON-217, February 1987.
- "Evaluation of the Energy-Related Inventions Program: An Empirical Analysis of 204 Inventions," with J. A. Morell, S. A. Snell, E. J. Soderstrom, W. E. Friggle, Oak Ridge, TN: Oak Ridge National Laboratory, ORNL/CON-225, March 1987.
- Brown, Marilyn A. (ed.) "Occupant Evaluation of Commercial Office Lighting: Volume 3, Data Archive and Database Management System," Oak Ridge, TN: Oak Ridge National Laboratory, ORNL/TM-10264/V3.
- Brown, M.A. and G. Gillette. (1987). "Occupant Evaluation of Commercial Office Lighting: Volume 2, Preliminary Data Analysis," R. W. Marans, Oak Ridge, TN: Oak Ridge National Laboratory, ORNL/TM-10264/V2, draft, September 1987.
- Brown, M.A. and G. Gillette. (1986). "Occupant Evaluation of Commercial Office Lighting: Volume 1, Methodology and Bibliography," Oak Ridge, TN: Oak Ridge National Laboratory, ORNL/TM-10264/V1, November 1986.
- *Program Planning Workbook for the 1986 SECP/EES All States Program Managers' Conference*, et al., Oak Ridge, TN: Oak Ridge National Laboratory, ORNL/M-201, September 1986.
- "The Role of Auditor Salesmanship in Residential Conservation Incentive Programs: A Case Study at Florida Power and Light," with L. G. Berry, D. L. White, P. Zeidler (Oak Ridge, TN: Oak Ridge National Laboratory) Report ORNL/CON-201, August 1986.
- "Technology Transfer for DOE's Office of Buildings and Community Systems: Assessment and Strategies," with D. W. Jones, J. O. Kolb, S. A. Snell (Oak Ridge, TN: Oak Ridge National Laboratory) ORNL/CON-202, July 1986.
- "The Implementation of a Residential Energy Conservation Shared Savings Program: The General Public Utilities Experience" with G. Reeves (Oak Ridge, TN: Oak Ridge National Laboratory) ORNL/CON-187, 1985.
- "A Strategy for Accelerating the Use of Energy-Conserving Building Technologies" with E. J. Soderstrom, E. D. Copenhaver, J. H. Sorensen (Oak Ridge, TN: Oak Ridge National Laboratory) ORNL/TM-9630, 1985.
- "An Evaluation of the Institute on Energy and Engineering Education" (Oak Ridge, TN: Oak Ridge National Laboratory) ORNL/TM-9482, 1985.
- "Factors that Influence the Implementation of Energy Saving Technologies at Naval Shore Facilities," with D. W. Jones (Oak Ridge, TN: Oak Ridge National Laboratory) ORNL-6142, 1985.
- (1985) "Enhancing Technology Transfer Through Laboratory/Industry Cooperative Research and Development," with E. J. Soderstrom, E. D. Copenhaver, J. H. Sorensen (Oak Ridge, TN: Oak Ridge National Laboratory) ORNL-6107, 1985.
- "The Diffusion of Residential Energy Conservation in an Urban Area," Report to the National Science Foundation, 121 pp., 1983
- *Residential Energy Conservation*, Vance Bibliographies, 13 pp., 1983.

- *Measuring Suburban Need and Distress*, with A. M. Isserman, Washington, D.C.: U.S. Department of Housing and Urban Development, Office of Policy Development and Research, 191 pp, 1981.
- "The Diffusion of Residential Energy Conservation Measures in an Urban Area - The Results of a Pilot Survey," with S. M. Macey, Report to the Office of Energy Research, University of Illinois, 1981.
- "Case Studies and a Dialogue on the Role of Geographic Analysis in Public Policy," (ed.) *Occasional Paper No. 12*, Department of Geography, University of Illinois, 1979.
- "The Role of Public and Private Agencies in the Diffusion of Innovations: A Behavioral Approach," in *Studies in the Diffusion of Innovation Discussion Paper Series*, Department of Geography, The Ohio State University, 1978.
- "Innovation Establishment in a Rural Setting: A Case Study of Four Innovations with Reference to a Conceptual Framework, *Studies in the Diffusion of Innovation Discussion Paper Series*, with L. A. Brown, Department of Geography, The Ohio State University, 1978.
- "A Collection of Exercises for Introductory Human Geography Courses," Discussion Paper No. 54, with I. M. Sheskin, The Ohio State University Department of Geography, 1976.
- "Cognitions of Distance in a Metropolitan Area," in R.G. Golledge, ed., *On Determining Cognitive Configurations of a City*. Columbus: The Ohio State University Research Foundation, pp. 333-34, 1975.

Book Reviews

New Life for Old Suburbs by Hal Kendig. 1979. Hemel Hempstead: George Allen & Unwin. 1979. Book review by Marilyn A. Brown, October 1, 1981 https://journals.sagepub.com/doi/abs/10.1080/00420988120080771

Growing Cooler: The Evidence on Urban Development and Climate Change by Reid Ewing, Keith Bartholomew, Steve Winkelman, Jerry Walters, and Don Chen. 2008. Book review by Marilyn A. Brown. http://www.smartgrowthamerica.org/gcindex.html

Published Databases

Sanmiguel, Valentina and Marilyn A. Brown (2021). "Combined Heat and Power Systems as a Carbon Reduction Strategy: A Case Study in the U.S. Southeast", Mendeley Data, https://data.mendeley.com/datasets/tv74krn5v9/draft?a=c07e65c6-af04-4cb1-9685-761da876d95e
v1 Reserved doi is 10.17632/tv74krn5v9.1

Podcasts and Videos: 2008-2012

Limiting the Magnitude of Future Climate Change. National Academies, 2011.

Green and Lean Approaches to Sustaining the U.S. Industrial Base, Rutgers, 2011

Book Debate: *Climate Change and Global Energy Security*: http://hdl.handle.net/1853/43270 (2011).

For a 20-minute lecture at Rutgers University on Green Approaches to Sustaining the U.S. Industrial Base (2011)

Interview with Cleanskies.tv News, September 25, 2008, on the Obama and McCain energy platforms.

BBC-Asia, August 12, 2008, on climate change conflicts between developing and developed countries.

Weather Channel, November 2008, Interview about energy and climate change issues.

Marilyn A. Brown and Benjamin K. Sovacool. 2009. "A Source of Energy Hiding in Plain Site" YaleGlobal Online, February 18.

http://saportareport.com/blog/2010/08/georgia-and-the-south-have-the-most-to-gain-by-embracing-energy-efficiency/

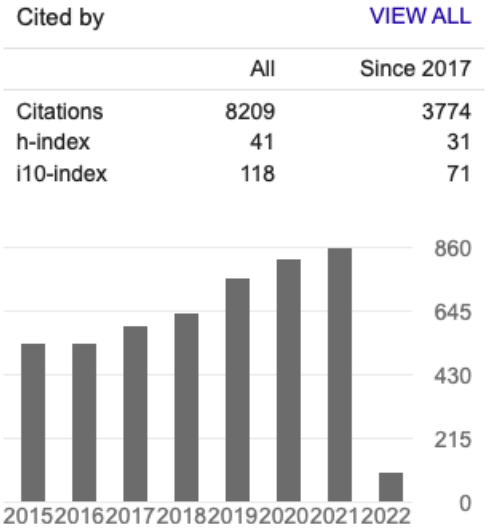
http://www.gatech.edu/newsroom/release.html?nid=60228

http://www.tvworldwide.com/events/nas/110512/ Session 2 on America's Climate Choices 2011

http://blogs.knoxnews.com/humphrey/2009/12/obama-nominates-clean-energy-

Marilyn A. Brown

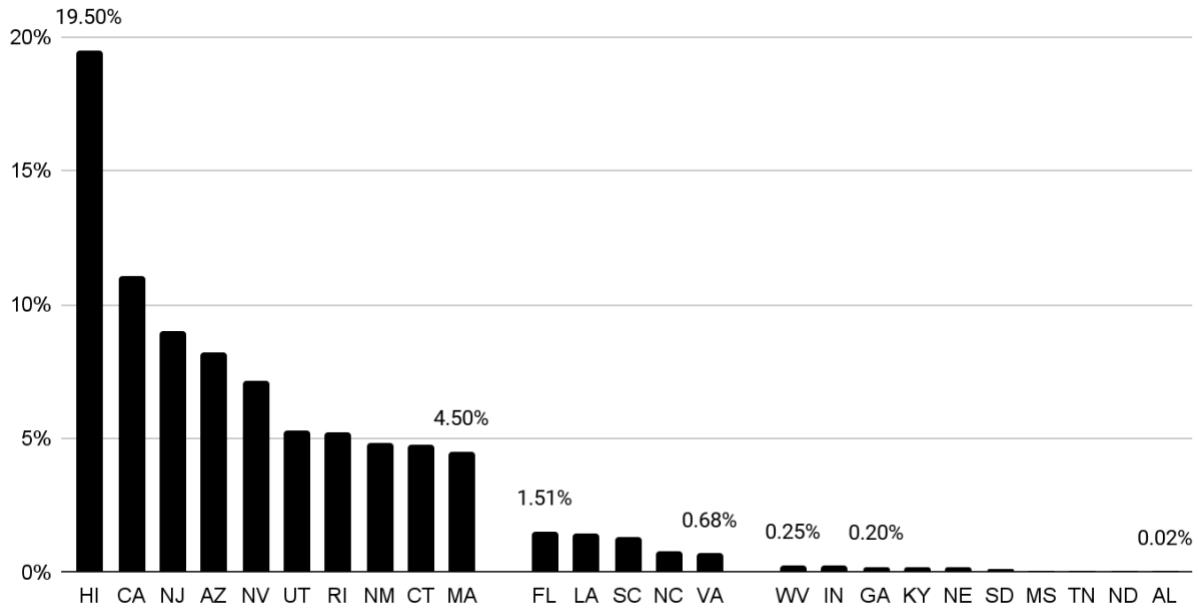
Georgia Institute of Technology
Verified email at pubpolicy.gatech.edu - Homepage
Energy and Climate Policy


Cited by
VIEW ALL
All
Since 2017
Citations 8209 3774
h-index 41 31
i10-index 118 71
860
645
430
215
0
2015 2016 2017 2018 2019 2020 2021 2022

Direct Testimony of Dr. Marilyn A. Brown
Southern Alliance for Clean Energy & Southface Energy Institute, Inc.
Georgia PSC, Docket No. 44280

MAB-Exhibit-2

Distributed Energy Generators as Percentage of Households, through June 2022

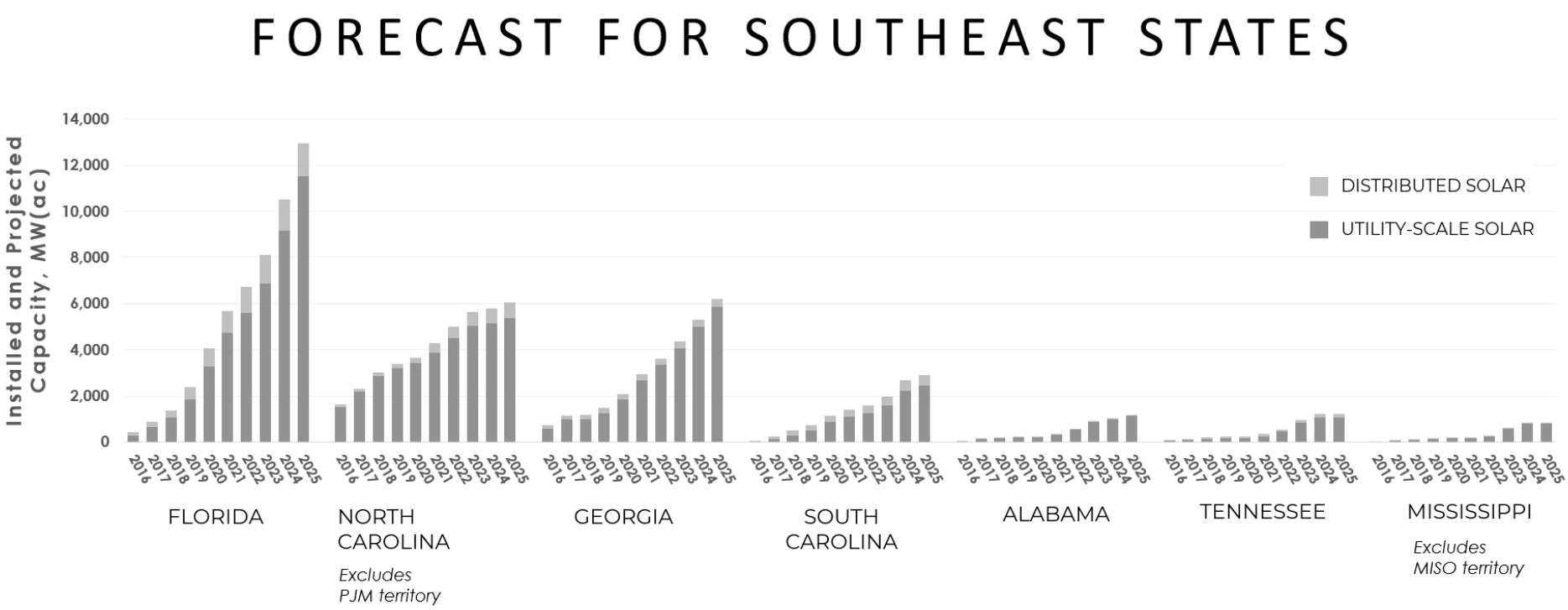


Source: EIA 2022 for Number of Net Metering and Non-Net Metering Generators and U.S. Census Data 2021 for Households.

Direct Testimony of Dr. Marilyn A. Brown
Southern Alliance for Clean Energy & Southface Energy Institute, Inc.
Georgia PSC, Docket No. 44280

MAB-Exhibit-3

Slow Growth Forecasted for Distributed Solar in Georgia: 2016-2025

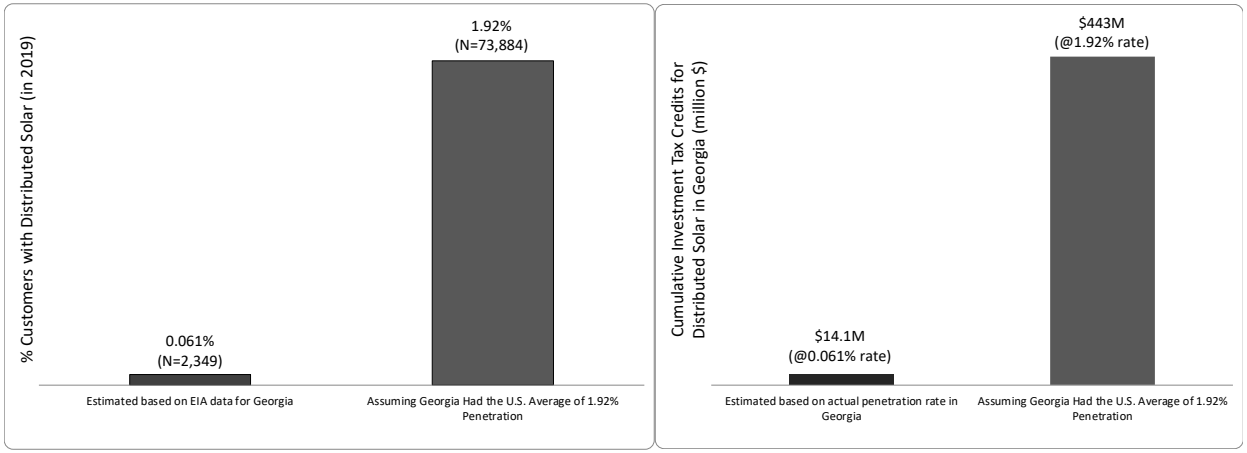


Source: Jacob, B. July 2022.

Direct Testimony of Dr. Marilyn A. Brown
Southern Alliance for Clean Energy & Southface Energy Institute, Inc.
Georgia PSC, Docket No. 44280

MAB-EXHIBIT-4:

Figure 5. Fewer Distributed Solar Systems in 2019 Means $429 Million in Tax Revenues Did Not Come to Georgia from 2010-2019



Data Sources: EIA and U.S. Census.

Based on analysis of residential distributed solar systems and net energy metering policies in 49 continental U.S. states, 2010-2019. Data sources: U.S. EIA; Smith et al., 2021[1]; Barbose et al., 2021[2]; U.S. Census Data.

[1] Smith, K.M, C. Koski, and S. Siddiki, 2021, Regulating net metering in the United States: A landscape overview of states' net metering policies and outcomes, *Electricity Journal*, Volume 34, Issue 2.
[2] Barbose, G. S. Forrester, E. O'Shaughnessy, and N. Darghouth, 2021, *Residential Solar-Adopter Income and Demographic Trends: 2021 Update*, Lawrence Berkeley National Lab.

Direct Testimony of Dr. Marilyn A. Brown
Southern Alliance for Clean Energy & Southface Energy Institute, Inc.
Georgia PSC, Docket No. 44280

MAB-Exhibit-5

Residential Distributed Generation Interconnection Fees